EPA WORK ASSIGNMENT NUMBER: 076-2JZZ
EPA CONTRACT NUMBER: 68-W8-0110
FOSTER WHEELER ENVIRONMENTAL CORPORATION

ARCS II PROGRAM

FINAL
SITE INSPECTION PRIORITIZATION (SIP)
DOVER LANDFILL NO. 2 SITE
TOWN OF DOVER, DUTCHESS COUNTY
NEW YORK
CERCLIS NO: NYD980508139

AUGUST 1995

VOLUME I OF II

NOTICE

THE INFORMATION PROVIDED IN THIS DOCUMENT HAS BEEN FUNDED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) UNDER ARCS II CONTRACT NO. 68-W8-0110 TO FOSTER WHEELER ENVIRONMENTAL CORPORATION (FORMERLY EBASCO SERVICES INCORPORATED). THIS DOCUMENT HAS BEEN FORMALLY RELEASED BY FOSTER WHEELER ENVIRONMENTAL CORPORATION TO THE USEPA. THIS DOCUMENT DOES NOT REPRESENT, HOWEVER, THE USEPA POSITION OR POLICY, AND HAS NOT BEEN FORMALLY RELEASED BY THE USEPA.

FOSTER WHEELER ENVIRONMENTAL CORPORATION

August 9, 1995
ARCSII-95-076-1244

Ms. Catherine E. Moyik
Work Assignment Manager
U.S. Environmental Protection Agency
290 Broadway
18th Floor
New York, New York 10007

SUBJECT: ARCS II PROGRAM – EPA CONTRACT NO. 68–W8–0110
WORK ASSIGNMENT 076–2JZZ – PRE-REMEDIAL INVESTIGATION
SITE INSPECTION PRIORITIZATION (SIP) REPORT
DOVER LANDFILL NO. 2 SITE

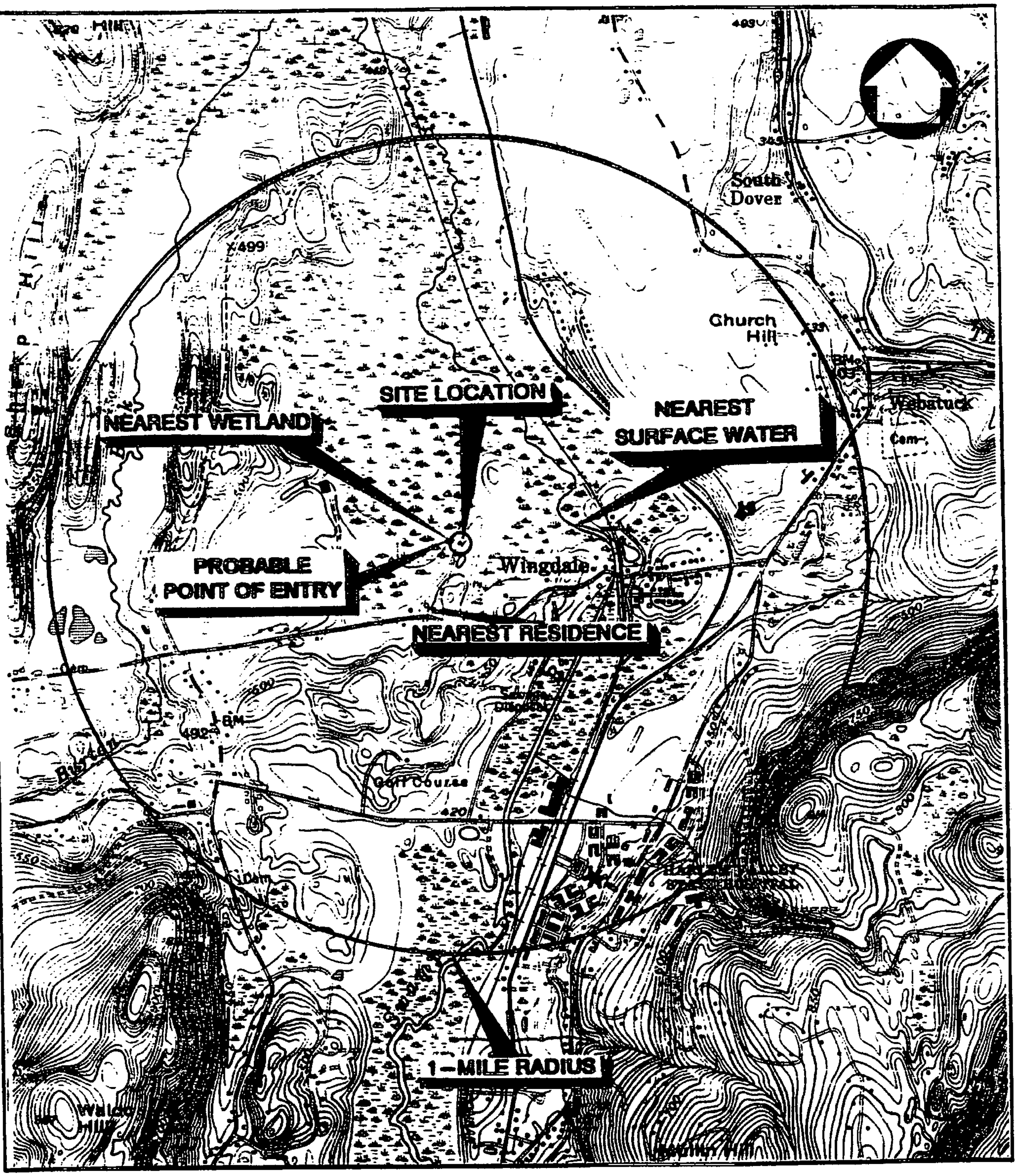
Dear Ms. Moyik:

The following is a summary of the Site Inspection Prioritization (SIP) evaluation of the Dover Landfill No. 2 site, CERCLIS ID No. NYD980508139. The Dover Landfill No. 2 site is located off Pleasant Ridge Road (Dutchess County Route 21) near the Village of Wingdale in the Town of Dover, Dutchess County, New York (Figure 1).

General Description and Site History

The Dover Landfill No. 2 site is an inactive landfill, approximately five acres in size, on private property (Ref. 3, p. 5 of 116). Figures 1 and 2 depict the regional site location and a detailed site sketch, respectively, of the Dover Landfill No. 2 site.

The Dover Landfill No. 2 site is elliptical in shape and is bordered by a ridge on the eastern side, and federal and state-regulated wetlands to the north, west, and south (Ref. 4, p. 1 of 8). Five groundwater monitoring wells are located on site (Ref. 4, p. 2 of 8). Although access to the site is not restricted by a fence, the site is located in a wooded remote area and the access road has a gate (Ref. 4, p. 2 of 8). No areas of the site, including the access road are paved (Ref. 4, p. 3 of 8). The landfill and surrounding areas are supporting vegetation and, visually, do not appear to have deteriorated due to the presence of the landfill (Ref. 4, pp. 3 and 4 of 8). During the ARCS II site inspection conducted December 1, 1994, it was noted that the landfill is in the process of being capped and closed. Approximately one-third of the landfill has a completed cap with a grass cover (Ref. 4, p. 1 of 8). One third is partially covered and awaiting soil compaction results before placing the final cover (Ref. 4, p. 5 of 8). The northern third is in the process of being covered (Ref. 4, p. 7 of 8). The capping process is expected to be completed by the end of 1995 (Ref. 27, p. 1 of 1).



SCALE: 1" = 2000'

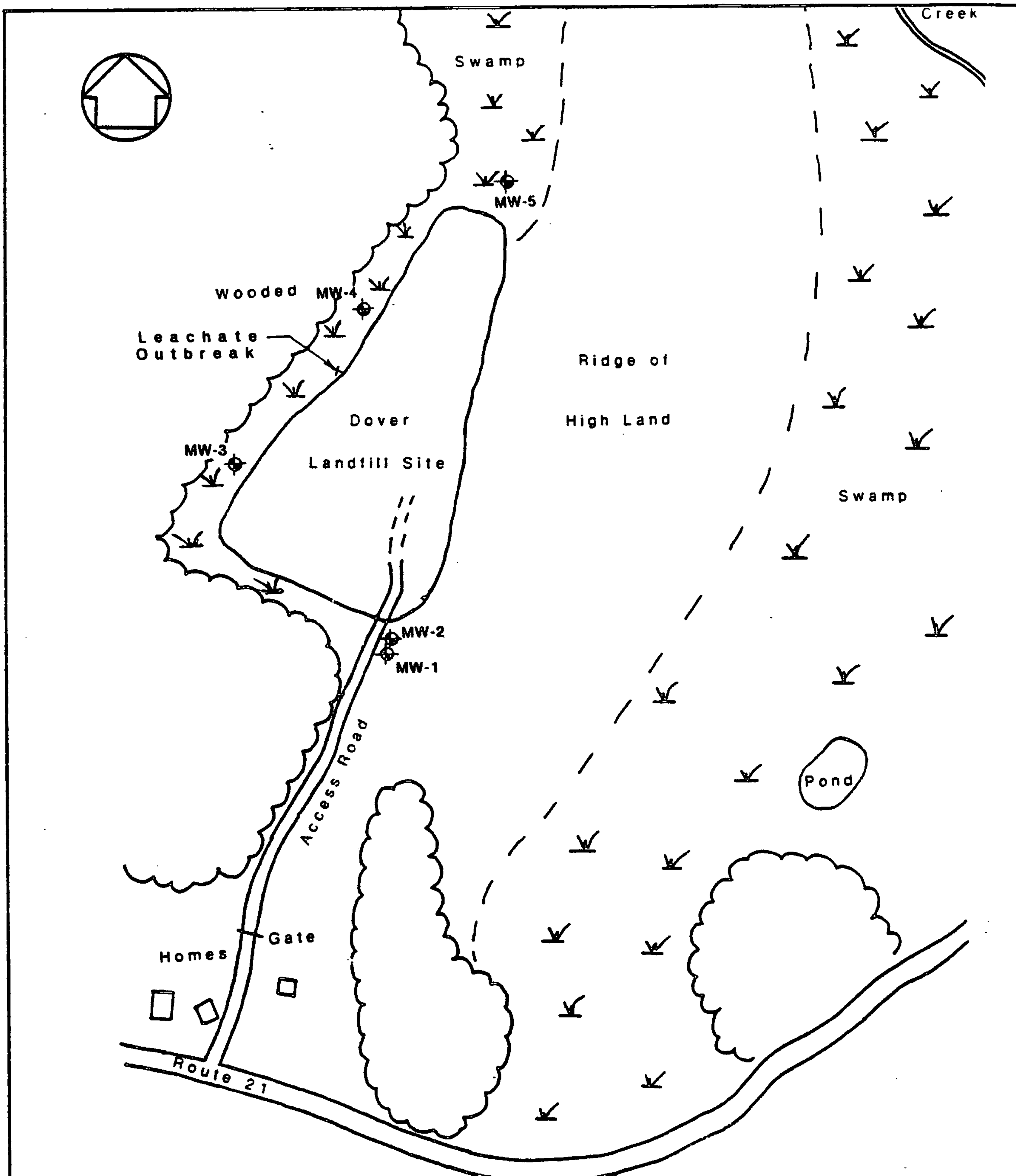
FIGURE 1

EBASCO ENVIRONMENTAL

SITE LOCATION MAP

DOVER LANDFILL No. 2
TOWN OF DOVER, NEW YORK

TOPOGRAPHY TAKEN FROM:
1958 DOVER PLAINS, N.Y.-CONN.
PHOTOREVISED 1984
U.S.G.S. QUADRANGLE 7.5 MIN. SERIES



SITE SKETCH

DOVER LANDFILL NO. 2

NOT TO SCALE

FIGURE 2

EBASCO ENVIRONMENTAL

Leachate was observed seeping from the uncapped portion of the landfill and into the western section of the federal and state-regulated wetlands (Ref. 4, pp. 2 and 3 of 8). The leachate on site is characterized as an orange-brown discoloration of sediment and a sheen on standing water. Four distinct leachate outbreaks were observed. Approximate dimensions of each of the outbreaks were as follows: 110 feet by 40 feet; 52 feet by 15 feet; 5 feet by 10 feet; and 2 feet by 3 feet. The total extent of leachate outbreak areas observed during the site inspection was calculated to be approximately 5,236 square feet.

The Dover Landfill No. 2 site is located in a rural area in eastern Dutchess County (Ref. 3, p. 5 of 116). The area is zoned residential for properties at a minimum of 80,000 square feet (Ref. 9, p. 1 of 1). A peat mining operation is located approximately 1,500 feet southwest of the site (Ref. 3, p. 16 of 116). Residential houses along Pleasant Ridge Road are located south of the site. Distance to the nearest residence is 0.20 mile from the site, at the southern end of the access road (Ref. 4, p. 3 of 8).

Historically, landfilling activities began at the Dover Landfill No. 2 site between 1943 and 1945. Only residential waste from the Village of Wingdale was reportedly received (Ref. 3, p. 14 of 116). During the 1970's, the Town of Dover leased and operated the landfill which reportedly received residential and small amounts of commercial waste from within the town. No industrial waste or sludge was permitted to be disposed of at the Dover Landfill No. 2 site (Ref. 12, p. 4 of 125).

In 1972, the Dutchess County Department of Health (DCDOH) took legal action against the Town of Dover to restrain the Town from using the landfill due to violations of the State Health Laws and Sanitary Codes. A field inspection completed by DCDOH in 1973 indicated that waste had been deposited in an unapproved low, swampy area. In 1974, the landfill was found to be operating in violation of New York State Department of Environmental Conservation Part 360 Regulations (Ref. 3, p. 14 of 116). During subsequent inspections by DCDOH in 1979 and 1980, the department noted additional violations regarding the quality and frequency of cover materials (Ref. 3, p. 15 of 116).

In 1982, it was alleged that the Dover Landfill No. 2 site received a shipment of hospital waste, although a radiological search, also conducted in 1982, yielded a negative result (Ref. 3, p. 16 of 116). Because of landfilling practices during the 1940's, the Dover Landfill No. 2 site was not lined before landfilling began (Ref. 3, p. 32 of 116). The site was closed to the public in 1983 (Ref. 3, p. 16 of 116).

In 1986, the Town of Dover entered into an Order on Consent with NYSDEC to close the landfill under the provisions of the Part 360 solid waste regulations (Ref. 12, p. 5 of 125). The capping observed during the ARCS II site inspection is a result of that order.

Two previous investigations have been conducted at the Dover Landfill No. 2 site. In 1985-1986, EA Science and Technology, Inc. (EA) completed a Phase I Investigation for the NYSDEC (Ref. 3, pp. 1 through 116 of 116). The most recent investigation was a Phase II Investigation completed for the Town of Dover and NYSDEC in 1990 by Leggette, Brashears, and Graham, Inc. (LBG) (Ref. 12, pp. 1 through 125 of 125). Site conditions observed during the ARCS II site inspection on December 1, 1994, were consistent with those reported during the previous site inspections, with the exception of the leachate outbreak on the western side of the landfill (Ref. 4, pp. 1 through 4 of 8).

A leachate outbreak was sampled and analyzed during May 1990 (Ref. 12, pp. 85 through 123 of 125). Groundwater sampling and analysis has been performed on several occasions on the five groundwater monitoring wells at the site (Ref. 10, pp. 1 through 24 of 24; Ref. 12, pp. 57 through 74 of 125).

In addition, drinking water samples from nearby residences were collected and analyzed on October 10, 1990, by the New York State Department of Health (NYSDOH) (Ref. 7, pp. 1 through 28 of 28). No soil sampling data are available for the Dover Landfill No. 2 site.

The Dover Landfill No. 2 site was officially delisted from the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites on May 9, 1991 due to the lack of documentation that hazardous wastes were ever disposed of at this site (Ref. 8, p. 28 of 28).

No information was uncovered during this SIP evaluation that would suggest that hazardous wastes have been disposed of at the Dover Landfill No. 2 site. The available unvalidated analytical data suggest that there has been no confirmed release of hazardous constituents to groundwater. Soil and surface water data are inadequate to confirm the presence or absence of hazardous substances attributable to the site.

Evaluation of Existing Information

Existing information and analytical data are limited to a 1986 EA Phase I Investigation (Ref. 3, pp. 1 through 116 of 116), and a 1990 LBG Phase II Investigation (Ref. 12, pp. 1 through 125 of 125). The 1986 Phase I included a HRS Scoring package. Other information available included a NYSDEC delisting package (Ref. 8, pp. 1 through 28 of 28), and both state and federal wetlands maps (Ref. 20, p. 1 of 1; Ref. 21, p. 1 of 1).

Hazard Assessment

Updated and additional information and collected data were utilized to further evaluate the site to determine the need for CERCLA remedial action based on the HRS Scoring System. Updated and additional information include the 1994 ARCS II site inspection, public water supply information, 4-mile radius population data, groundwater population data, rainfall frequency data, and resource and sensitive environment information. The site was scored according to the procedures outlined in the USEPA Hazard Ranking System Final Rule (Ref. 1, p. 1 of 1) and the USEPA Superfund Chemical Data Matrix (Ref. 2, p. 1 of 1).

Waste Source Description

The entire Dover Landfill No. 2 can be characterized as a single potential source area for hazardous substances. A seep sample was obtained during May 1990 and analyzed for organic and inorganic constituents (Ref. 12, p. 22 of 125 and pp. 85 through 91 of 125). Results of the analyses indicated the presence of volatile organics; namely, benzene at an estimated concentration of 4.4 parts per billion (ppb), 1,3 dichlorobenzene at 5.2 ppb and chlorobenzene at 10 ppb (Ref. 12, p. 89 of 125). Inorganics detected included aluminum (1,800 ppb), arsenic (9.6 ppb), barium (330 ppb) and zinc (80 ppb) (Ref. 12, pp. 86 and 87 of 125).

Groundwater Pathway

The Dover Landfill No. 2 site has been built on the western side-slope of a north/south trending bedrock ridge. Bedrock is overlain by unconsolidated overburden consisting of Carlisle muck (peat) and glacial deposits (Ref. 3, p. 17 of 116). Overburden deposits are thickest on the western edge of the site (bedrock valley) and thinnest on the eastern edge of the site (bedrock ridge) (Ref. 12, pp. 39 and 40 of 125).

The Carlisle muck is limited in extent to low-lying areas, such as adjacent to the western side of the site. The Carlisle muck occurs in areas underlain with limestone or along streams flowing from limestone regions. Probably the largest areas are those along the Swamp River in the southeastern part of Dutchess County (Ref. 3, p. 109 of 116). Carlisle muck is an alkaline soil that ranges from a well-decomposed organic material to a fine sandy loam (Ref. 3, p. 109 of 116).

Glacial deposits include glacial till and stratified outwash material (Ref. 12, p. 32 of 116). Glacial deposits at the site consist of predominantly silts and sands (Ref. 12, pp. 50 through 52 of 125) and range from fine to medium sands interbedded with fine gravels to mostly silts and clays (Ref. 12, p. 33 of 125).

The bedrock underlying the landfill is classified as Stockbridge Marble, a metamorphosed unit of limestone and dolomite (Ref. 12, p. 5 of 125). Stockbridge Marble in the Swamp River Valley has been severely folded (Ref. 3, p. 3 of 10).

At the site, overburden deposits range in thickness from less than one foot on the eastern side, as evidenced by the presence of bedrock outcrops (Ref. 4, p. 8 of 8), to approximately 48 feet at MW-3 (Ref. 12, p. 40 of 125). Trenches excavated in May 1978 at locations now covered by the landfill indicated depths to bedrock from less than one foot to greater than five feet (Ref. 3, p. 71 of 116). Beneath the landfill, the depth to bedrock from the original ground surface is estimated to be five feet. The thickness of the fill is not exactly known, but was estimated to be 28 feet based on the elevation difference between the top and base of the landfill (Ref. 12, p. 124 of 125). Therefore, the depth to bedrock from the landfill surface is estimated to be 33 feet.

Because of the ridge and valley topography at the site, the depth to groundwater varies substantially from east to west across the landfill. Groundwater level data collected on May 4, 1990 indicated groundwater elevations ranging from 419 to 443 feet. The depth to groundwater ranged from greater than two feet above ground surface at MW-3 (artesian well) to approximately eight feet below ground surface at MW-2 (Ref. 12, pp. 14 and 40 of 125). Flowing artesian conditions were observed at MW-3 during the ARCS II site inspection (Ref. 4, p. 6 of 8). Soil borings installed in 1976 to the west of the site indicated a depth to water of four feet (Ref. 3, p. 74 of 116). From these borings groundwater was estimated to be at a depth of six feet below the pre-landfill surface (Ref. 3, p. 71 of 116). Therefore, the depth to groundwater beneath the surface of the landfill is estimated to be 34 feet based on a fill thickness of 28 feet.

The overburden and bedrock were evaluated as one aquifer because the units are in direct contact and have similar permeabilities. In situ permeability tests of monitoring wells at the site indicated the permeability of overburden ranged from 0.417 to 6.00 feet per day (1.47E-04 to 2.12E-03 cm/sec) (Ref. 12, p. 18 of 125). The permeability of the bedrock (MW-1) was 0.635 feet per day (2.24E-04 cm/sec) (Ref. 12, p. 18 of 125).

The Stockbridge Formation is the most productive bedrock formation in Dutchess County for groundwater. Yields from wells average about 22 gpm and range up to 220 gpm (Ref. 13, p. 9 of 10). Larger yields from the Stockbridge limestone indicate that joints and other openings in this formation have been enlarged by solution. Most drinking water supplies in Dutchess County are obtained from wells (Ref. 5, pp. 2 and 3 of 4).

To characterize shallow groundwater flow conditions, six shallow overburden well points (piezometers) were installed during May 1990 for water elevations. Based on groundwater level measurements obtained from these installations, shallow groundwater flows in a northerly direction away from the north section of the landfilled area (Ref. 12, p. 6 of 125).

Information regarding groundwater quality conditions at and within the vicinity of the Dover Landfill No. 2 site consists of groundwater quality data from the five on-site groundwater monitoring wells and residential wells sampled by NYSDOH.

The five monitoring wells displayed on Figure 2 were constructed in 1986 to assess groundwater quality at the site (Ref. 12, p. 6 of 125). Information describing recent water quality is based on three groundwater sampling events at the site – December 5, 1986 (Ref. 12, pp. 54 through 74 of 125); June 12, 1987 (Ref. 10, pp. 1 through 24 of 24); and May 23, 1990 (Ref. 12, pp. 85 through 123 of 125). During each sampling event, samples were analyzed for organic and inorganic constituents. Based on review of the available files, there is no indication that any of the data have been validated.

The design of the groundwater monitoring well system at the site does not allow for direct comparison of upgradient and downgradient groundwater quality in similar hydrostratigraphic units. Specifically, MW-1 was constructed as a bedrock installation while monitoring wells MW-3, MW-4 and MW-5 were completed in the overburden (Ref. 12, pp. 44 and 46 of 125). Well MW-2 (Ref. 12, p. 45 of 125) was constructed adjacent to MW-1 as a shallow sump (Ref. 12, p. 6 of 125). Both overburden and bedrock groundwater can enter the well screen at MW-2. Therefore, groundwater from this installation represents a composite from both the overburden and bedrock units.

During the 1986 sampling event, volatile organics, namely xylenes (260 ppb); benzene (100 ppb); toluene (600 ppb) and ethylbenzene (47 ppb) were detected above laboratory detection limits in monitoring well MW-2 (Ref. 12, pp. 67 and 68 of 125). However, six months later, during the 1987 sampling event, the only volatiles present were benzene (3 ppb) and toluene (2 ppb) (Ref. 10, p. 7 of 24). This sudden decrease in concentration at MW-2 and the absence of volatiles during the May 1990 sampling event (Ref. 12, pp. 98 through 100 of 125), suggest that MW-2 may have been inadvertently contaminated during well installation. This is further supported by the fact that leachate seep sampled during May 1990 contained only trace levels of benzene and no toluene, ethylbenzene or xylenes (Ref. 12, pp. 86 through 91 of 125). These observations coupled with the fact that MW-2 is hydraulically upgradient from the landfill, indicates that the contamination detected in this installation is unlikely attributable to the landfill.

For the purposes of assessing the potential for release from the site, the water quality data collected in May 1990 from the three downgradient overburden monitoring wells (MW-3, MW-4, and MW-5) were compared to MW-2. MW-2 was selected as the background well because it is the only upgradient well with groundwater contributions from the overburden. MW-2 is screened in overburden and bedrock (Ref. 12, p. 40 of 125). Concentrations of inorganic and volatile organic compounds in downgradient wells were not greater than three times the levels in MW-2 (Ref. 12, pp. 92 through 118 of 125). In addition, semivolatiles, pesticides and PCBs were not detected in any downgradient well (Ref. 12, pp. 92 through 118 of 125). Based on these results, it is concluded that there has been no documentation of a release of hazardous constituents from the landfill to groundwater.

Residential water wells near the site were sampled on September 10, 1990 by NYSDOH for metals, volatile organics, ketones, pesticides, PCBs and priority pollutants. Metals such as copper (13-221 ppb), iron (14-23 ppb), barium (6-15 ppb), strontium (75 ppb), and zinc (85-111 ppb) were reported above laboratory detection limits (Ref. 7, pp. 1 through 28 of 28). However, since there is no documented release based on the water quality data from the on-site monitoring wells and there is no background data available for this sampling event, the metal detections in the residential wells cannot be attributed to the landfill. The metal detection could be attributable to ambient groundwater conditions or other potential sources.

According to the CENTRACTS Report by Frost Associates, 6,305 people reside within four miles of the Dover Landfill No. 2 site (Ref. 14, pp. 8 and 16 of 17). Reference 26 identifies the radius areas within the 4 miles of the Dover Landfill No. 2 site (Ref. 26, p. 1 of 1). Additionally, the report indicates that of the total population within 4 miles of the site (6,305), there are 4,461 people using private sources of groundwater as follows: 16 people within 0.25 mile of the site; 69 people from the 0.25-mile to 0.50-mile radius; 272 people from the 0.50-mile to 1-mile radius; 918 people from the 1-mile to 2-mile radius; 1,405 people from the 2-mile to 3-mile radius; 1,781 people from the 3-mile to 4-mile radius (Ref. 14, pp. 8, 9 and 16 of 17).

Community water supplies are responsible for supplying drinking water to a population of 543 residing within four miles of the site. Several community water supply sources, both municipal and non-municipal, are responsible for supplying drinking water to the majority of the remaining population through water wells. Within the 4-mile radius, the Brooks Mobile Home Park, located 1.6 miles from the site, supplies 20 people (Ref. 5, pp. 1 through 4 of 4; Ref. 6, p. 8 of 12); the Cannons Trailer Park, located 1.7 miles from the site, supplies 36 people (Ref. 5, pp. 1 through 4 of 4; Ref. 6, p. 8 of 12); the Angels Trailer Park, located 1.5 miles from the site, supplies 50 people (Ref. 5, pp. 1 through 4 of 4; Ref. 6, p. 8 of 12); the Shady Homes Trailer Park, located 1.7 miles from the site, supplies 40 people (Ref. 5, pp. 1 through 4 of 4; Ref. 6, p. 11 of 12); the Ramsey's Trailer Park, located 1.6 miles from the site, supplies 9 people (Ref. 5, pp. 1 through 4 of 4); (Ref. 6, p. 10 of 12); the Wingdale Village Park, located 1.4 miles from the site, supplies 200 people (Ref. 5, pp. 1 through 4 of 4); (Ref. 6, p. 12 of 12); the East Mountain Trailer Park, located 3.2 miles from the site, supplies 25 people (Ref. 5, pp. 1 through 4 of 4; Ref. 6, p. 9 of 12); the Lake Ellis Mobile Home Park, located 3 miles from the site, supplies 23 people (Ref. 5, pp. 1 through 4 of 4; Ref. 6, p. 9 of 12); the Cedar Lane Mobile Home Park No. 2, located 2 miles from the site, supplies 30 people (Ref. 5, pp. 1 through 4 of 4; Ref. 6, p. 8 of 12); and the Schreiber Water Works, which is a municipal public water system located 0.9 mile from the site, supplies 110 people (Ref. 5, pp. 1 through 4 of 4); (Ref. 6, p. 6 of 12). The remaining population is served by a surface water intake from the Swamp River, located upstream from the Dover Landfill No. 2 site, near the Harlem Valley State Hospital (Ref. 5, pp. 2 and 3 of 4).

Overall, the total population using groundwater withdrawn from wells located within a 4-mile radius of the site is approximately 5,004. Private water withdrawn from wells within a 4-mile radius supplies 4,461 people (Ref. 14, pp. 8, 9 and 16 of 17). Municipal and public water withdrawn from wells within a 4-mile radius supplies 543 people (Ref. 6, pp. 6 through 12 of 12).

The Dover Landfill No. 2 site is not located within a designated wellhead protection area according to the Dutchess County Health Department (Ref. 11, p. 1 of 1). As a best management practice, Dutchess County currently uses a 200-foot radius around any public well as the wellhead buffer area, whether or not it is a municipal or non-municipal public well.

Groundwater quality data from the five on-site monitoring wells indicate that there is not an observed release of hazardous constituents from the site to the groundwater pathway. The site is in close proximity to residences utilizing private and public wells for drinking water. As of this date, the available data do not confirm that the Dover Landfill No. 2 site has impacted the quality of groundwater at these residences.

Surface Water Pathway

There is no year-round (perennial) surface water body located on the Dover Landfill No. 2 site. There are no sampling data available for the nearest perennial stream or for the overland flow pathway between the site and the nearest surface water.

The Dover Landfill No. 2 site is located in an area of minimal flooding (Ref. 15, p. 4 of 4). The 2-year, 24-hour rainfall in the site vicinity is approximately 3 inches (Ref. 16, p. 2 of 2). The maximum acreage of the site (5 acres) was considered as the drainage area for the site. The 15-mile TDL is shown in Reference 24. During rainfall events, stormwater runoff from the landfill would tend to flow toward the northwest or southwest bordering wetlands, since the site is bordered by a ridge on the eastern side of the site. Drainage from these wetland areas is toward Swamp River, which is designated as a New York State Class C stream suitable for fishing and fish propagation (Ref. 17, p. 4 of 7). The Swamp River is known to be a habitat for trout during the cooler months of the year (Ref. 18, p. 1 of 2). The entire drainage of the Swamp River enters the Tenmile River just south of Dover Plains. The Tenmile River is designated as a New York State Class B and C waterway (Ref. 17, p. 3 of 7). The Tenmile River is designated as a Class C waterway from the mouth of the Swamp River to Lake Ellis Road Bridge (Ref. 17, p. 3 of 7). Tenmile River becomes a Class B waterway, from Lake Ellis Road Bridge to the New York-Connecticut state line (Ref. 17, p. 3 of 7). A Class B waterway is suitable for primary contact recreation and any other uses except as a source of water supply for drinking, culinary or food processing purposes (Ref. 17, p. 6 of 7). Low-flow frequencies for Swamp River near Dover Plains and Tenmile River near Wassaic are 2.1 cfs and 10 cfs, respectively (Ref. 19, p. 2

of 2). Because of the state water quality designations, Swamp River and Tenmile River are considered sensitive environments for the protection of aquatic life.

There are no drinking water intakes from surface waters along the 15-mile TDL downstream of the Dover Landfill No. 2 site (Ref. 5, pp. 2 and 3 of 4; Ref. 24, p. 1 of 1). The one surface water intake on the Swamp River is located 0.75 mile upstream from the Dover Landfill No. 2 site (Ref. 5, pp. 1 through 4 of 4).

Federal and state wetlands occur along the downstream surface water pathway. Wetlands are located along the pathway as follows: 0.0 mile from the PPE with 0.76 mile of wetland frontage; 0.38 mile from the PPE with 5.24 miles of wetland frontage; 4.2 miles from the PPE with 1.0 mile of frontage; 8.83 miles from the PPE with 0.06 mile of frontage; and 10.75 miles from the PPE with 0.05 mile of wetland frontage (Ref. 20, p. 1 of 1; Ref. 21, p. 1 of 1; Ref. 26, p. 1 of 1). Additionally, there are known occurrences of rare animals, plants, or natural communities and/or significant habitats along the 15-mile downstream pathway of the Dover Landfill No. 2 site (Ref. 22, pp. 3 and 10 of 12). The bog turtle (Clemmys muhlenbergii) is known to inhabit part of the New York State freshwater wetlands, located approximately 0.96 mile north of the site (Ref. 22, p. 3 of 12). Three other occurrences of the bog turtle were noted along the 15-mile TDL downstream surface water pathway from the site (Ref. 22, pp. 3 and 8 of 12). The bog turtle is classified on both a federal and state level. The federal status of the bog turtle is C2, which means that the species is a candidate (Category 2) to be listed as an endangered or threatened species, but more data are needed (Ref. 22, p. 12 of 12). The state rank of the bog turtle is S2, which means typically there are 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrable making it very vulnerable in New York State (Ref. 22, p. 12 of 12). These sensitive environments are not known to be contaminated based on available information.

Recreational fishing does occur on Swamp River. Recreational fish species include brown trout, brook trout, large-mouth bass, blacknose dace, longnose dace, pumpkinseed, bluegill, redbreast sunfish, golden shiner, tesselated darter, fallfish, brown bullhead, redfin pickerel, cutlip minnows, common shiners, white suckers, rock bass, and creek chub (Ref. 18, pp. 1 and 2 of 2). New York State has not issued any health advisories for any fish within these rivers (Ref. 23, p. 1 of 2). Commercial fishing does not take place on the Swamp River or Tenmile River (Ref. 18, p. 2 of 2). Fishery production is unknown, but was assumed to be one pound per year for the Swamp River and Tenmile River.

In summary, there is no evidence available to confirm a release of hazardous constituents to surface water or to suggest the presence of site contaminants in the overland pathway to the nearest perennial surface water. Surface water runoff from the site would flow into the wetlands surrounding the site and eventually flow to the Swamp River. Although there are no surface water intakes along the 15-mile TDL, there are sensitive environments and fisheries.

Soil Pathway

There has been no soil sampling conducted on the Dover Landfill No. 2 site. Therefore, areas of observed contamination in the soil pathway cannot be documented.

There are no on-site workers or residents at the Dover Landfill No. 2 site (Ref. 4, p. 3 of 8). There are no schools/day-care centers within 200 feet of the site (Figure 1) (Ref. 4, p. 3 of 8). There are 24 residents between 0 and 0.25 mile from the site; 98 residents between 0.25 and 0.50 mile from the site; and 388 residents between 0.50 and 1 mile from the site (Ref. 14, pp. 8 and 9 and 16 of 17).

Access onto the site from surrounding areas is not restricted by any fence or natural obstacles. A gate to restrict vehicles from entering the site is located on the access road to the Dover Landfill No. 2 site (Ref. 4, p. 2 of 8).

The predominant soil type in the area is that of fine sandy loam (Dover soils) of the ledgy hilly phase with slopes of 15 to 30 percent (Ref. 25, p. 3 of 4), and an alkaline muck (Carlisle muck) ranging from well-decomposed organic material to sandy loams with slopes of 0 to 2 percent (Ref. 3, p. 109 of 116).

NYSDEC files indicated that no known occurrences of rare animals, plants, or natural communities and/or significant wildlife habitats are on, or within, 200 feet of the site (Ref. 22, pp. 3 through 8 of 12). The nearest sensitive environment, which is located adjacent to the site, is a federal and NYSDEC-regulated freshwater wetland (Ref. 20, p. 1 of 1; Ref. 21, p. 1 of 1). The nearest significant wildlife habitat, the bicknell sedge plant (Carex bicknellii) is located 0.42 mile south of the site (Ref. 22, p. 3 of 12).

In summary, without any documented soil sampling, it is not possible to determine whether on-site soils have been impacted by the prior landfilling activities. There are no sensitive environments or threatened species within 200 feet of the site; therefore, it is assumed that the potential for exposure would be minimal if any soil contamination were present on site.

Air Pathway

No volatile organic vapor readings in the air above background were detected during the 1986 EA site visit (Ref. 3, p. 19 of 116). Additionally, no documentation suggesting a release of contaminants to the air has been identified.

During the ARCS II site inspection, a photoionization detector (PID) with a 10.2 eV lamp was used to monitor ambient air. Ambient air readings above background were not detected during the site inspection (Ref. 4, p. 3 of 8).

There are 24 residents between 0 and 0.25 mile from the site; 98 residents between 0.25 and 0.50 mile from the site; 388 residents between 0.50 and 1 mile from the site; 1,357 residents between 1 and 2 miles from the site; 2,357 residents between 2 and 3 miles from the site; and 2,080 residents between 3 and 4 miles from the site (Ref. 14, pp. 8, 9 and 16 of 17). There are approximately 2,720.32 acres of wetlands within a 4-mile radius of the site as follows: 0 to 0.25 mile, 83.62 acres; 0.25 to 0.50 mile, 158.11 acres; 0.50 to 1 mile, 264.47 acres; 1 to 2 miles, 742.14 acres; 2 to 3 miles, 725.8 acres; and 3 to 4 miles, 746.18 acres (Ref. 26, p. 1 of 1). Because of their New York State freshwater classification within the 4-mile radius of the site, the Swamp River and Tenmile River are state-designated sensitive areas for the protection or maintenance of aquatic life (Ref. 17, pp. 2 and 3 of 7). Additionally, there are 12 known occurrences of rare animals, plants, or natural communities and/or significant habitats within the 4-mile radius of the Dover Landfill No. 2 site that are state- and federal-endangered or threatened species (Ref. 22, pp. 3 through 10 of 12). The bicknell sedge plant (Carex bicknellii) is known to inhabit an area located approximately 0.42 mile south of the site (Ref. 22, p. 3 of 12). Other state and federal-threatened or endangered species within the 4-mile radius are as follows: blanding's turtle is located 3.56 miles from the site; timber rattlesnake is located 2.58 miles from the site; green milkweed is located 3.29 miles from the site; scarlet indian-paintbrush is located 2.52 miles from the site; bicknell sedge is located 0.42 mile from the site; blazing star is located 2.52 miles from the site; carolina whitlow-grass is located 0.87 mile from the site; soapwort gentian plant is located 2.52 miles from the site; violet lespedeza is located 1.59 miles from the site; yellow wild flax is located 2.33 miles from the site; and the large twayblade is located 2.52 miles from the site; (Ref. 22, pp. 3 through 8 of 12).

One economic resource was identified within a half-mile radius of the site. A peat-mining operation is located approximately 0.28 mile southwest of the Dover Landfill No. 2 site (Ref. 3, p. 16 of 116). A commercial building for these mining operations is also located approximately 0.28 mile west of the site.

In summary, the air monitoring conducted during the 1986 investigation by EA and the recent ARCS II site visit suggests that no release of hazardous constituents to air has occurred or is occurring at the site.

Summary

The site is an inactive landfill that ceased operations in 1983. The site began landfilling activities between 1943 and 1945. It was leased and operated by the Town of Dover during the 1970's for municipal landfilling.

During the ARCS II site inspection, the Dover Landfill No. 2 was in the process of being capped. At the time of the site inspection approximately one-third of the landfill was capped with vegetation already beginning to grow. Also, during the site inspection, leachate was observed emanating from the landfill and into federal and state-regulated wetlands to the west of the site. The approximate total dimension of the leachate outbreak areas was determined to be 5,236 square feet. The leachate, as observed, has not visually effected the vegetation in contact with the leachate. The landfill perimeter was well vegetated and was not observed to have any other visual impacts.

The site has been the subject of two prior investigations conducted by EA (Phase I Investigation, 1986) and LBG (Phase II Investigation, 1990). Overall, the only sampling data available from the site includes groundwater data from the five on-site monitoring wells. Residential water well samples also exist. The available data do not confirm a release of hazardous constituents to groundwater nor do the available data suggest a potential release. Further, there are no soil or surface data available for the site or nearest perennial stream. There is no evidence of a release of hazardous constituents to air.

The site was delisted on May 9, 1991 from the Registry of Inactive Hazardous Waste Disposal Sites in New York State. The change in status was prompted by the absence of any evidence or documentation of hazardous waste disposal. The site is currently undergoing NYSDEC mandated closure.

Prepared By:

Donna J. Bolner
Staff Scientist
Wehran-New York, Inc.

Approved By:

Dev Sachdev, Ph.D., P.E.
ARCS II Program Manager
Ebasco Services Incorporated

Reviewed By:

Edgar J. Aguado
Site Manager
Ebasco Services Incorporated

REFERENCES

1. Hazard Ranking System. 40 CFR 300. Part II, December 1990.

2. Superfund Chemical Data Matrix. Publication 9360. 4-18, June 1994.

3. EA Science and Technology, Inc., Phase I Investigation. Dover Landfill, Site No. 314066, Town of Dover, Dutchess County, New York, August 1986.

4. Wehran Field Notes. Site Inspection of the Dover Landfill No. 2 site, December 1, 1994.

5. New York State Department of Health. New York State Atlas of Community Water System Sources, 1982.

6. Dutchess County Department of Health. Memo concerning Deep Test Holes - Proposed Landfill. November 1, 1968.

7. New York State Department of Health Wadsworth Center for Laboratories and Research. Residential well samples for the Dover Landfill No. 2 site and Harlem Valley Psychiatric Center Landfill. January 11, 1991.

8. New York State Department of Environmental Conservation, Bureau of Hazardous Site Control, Additions/Change to Registry Summary of Approvals for Dover Landfill (#314066), April 1991.

9. Buschynski, Joe, Bibbo Associates. Telecon memo concerning zoning of the Dover Landfill No. 2 site. February 9, 1995.

10. Camo Laboratories Analytical Report. Town of Dover Landfill. June 12, 1987.

11. Napley, Jim, Dutchess County Health Department. Telecon memos concerning wellhead protection areas within Dutchess County. January 25, 1995.

12. Leggette, Brashears and Graham, Inc., Phase II Investigation. Town of Dover Landfill, Pleasant Ridge Road, Wingdale, New York. November 1990.

13. State of New York Department of Conservation Water Resources Commission, Ground-Water Resources of Dutchess County, New York. 1961.

14. Frost Associates. Dover Town Dump Population Radius Search. New York and Connecticut Portions. January 12, 1995.

15. Emergency Management Agency, 1984 FIRM Map for the Town of Dover, New York, Dutchess County. Panel No. 3613350025A. August 15, 1984.

REFERENCES (Cont'd)

16. Rainfall Frequency Atlas of the U.S. for Duration from 30 Minutes to 24 Hours, 1 to 100 Years. Technical Paper No. 51.

17. New York State Division of Water Resources, Subchapter B, Part 825. Housatonic River Drainage Basin. Stream Classifications.

18. Pierce, Ronald, New York State Department of Environmental Conservation, Region 3. Letter concerning fisheries of the Swamp and Tenmile rivers. December 20, 1994.

19. Low-Flow Frequency Analysis of Streams in New York. Bulletin 74. 1979.

20. U.S. Department of the Interior, Federal Wetland Maps. Dover Plains, Pawling, Poughquag and Verbank, New York.

21. New York State Department of Environmental Conservation Freshwater Wetlands Maps. Maps 15, 16, 19, 20 of 22.

22. New York State Department of Environmental Conservation Natural Heritage Program Element Occurrence Report. December 28, 1994 and January 25, 1995.

23. Pierce, Ronald, New York State Department of Environmental Conservation, Region 3. Telecon memos concerning fisheries of the Swamp and Tenmile rivers. January 19 and 25, 1995.

24. Fifteen-Mile Surface Water Segments. Based on Dover Plains 7.5 Minute Topographic Quadrangle, 1958, Photo revised 1984.

25. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey of Dutchess County, New York. December 1955.

26. Four-Mile Vicinity Map. Based on Dover Plains (1984), Pawling (1971), Poughquag (1981), and Verbank (1976) 7.5 Minute Topographic Quadrangles.

27. Buschynski, Joe, Bibbo Associates. Telecon memo concerning expected completion of capping for Dover Landfill No. 2.

28. Napley, Jim, Dutchess County Health Department. Telecon memo concerning groundwater resources.

REFERENCE 1

REFERENCE # [illegible]
PAGE 1 OF 1

federal register

Friday
December 14, 1990

Part II

Environmental Protection Agency

40 CFR Part 300
Hazard Ranking System; Final Rule

REFERENCE 2

REFERENCE # 2
PAGE 1 OF 1

United States
Environmental Protection
Agency

Solid Waste and
Emergency Response
(5204G)

9360.4-18
PB94-963506
EPA 540-R-94-0
June 1994

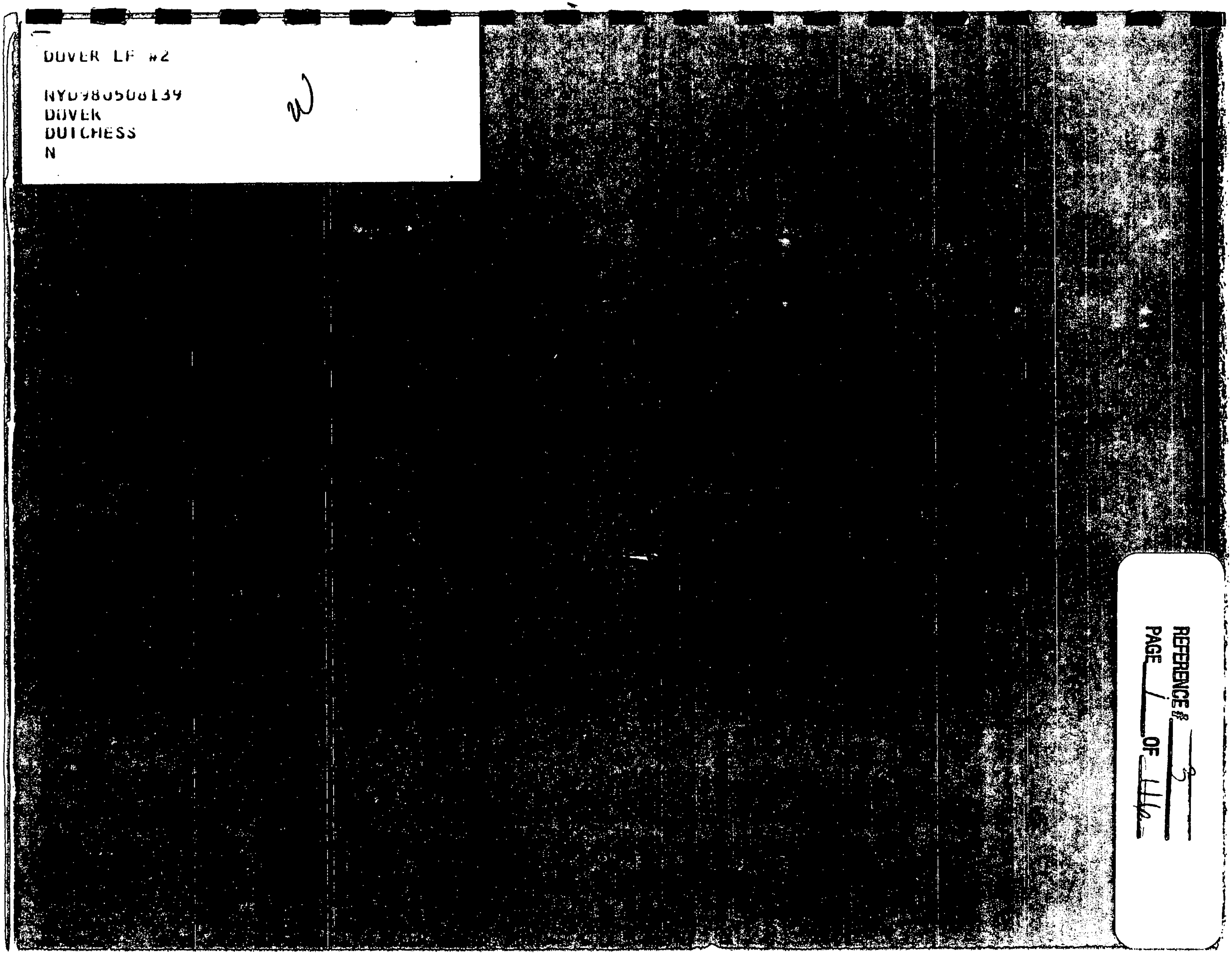
EPA

Superfund Chemical Data Matrix

Rec'd
8/26/94

RECEIVED
SEP 12 1994
E. AGUADO

REFERENCE 3


DOVER LF #2
NY0980508139
DOVER
DUTCHESS
N
w
REFERENCE # 3
PAGE 1 OF 146

REFERENCE # 3
PAGE 2 OF 116

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE 1 INVESTIGATION
Dover Landfill
Site No. 314066
Town of Dover, Dutchess County
Final - August 1986

NYD980508139
Dover Landfill

Prepared for:

New York State Department of Environmental Conservation

50 Wolf Road, Albany, New York 12233
Henry G. Williams, Commissioner

Division of Solid and Hazardous Waste
Norman H. Nosenchuck, P.E., Director

Prepared by:

EA SCIENCE AND TECHNOLOGY
A Division of EA Engineering, Science, and Technology, Inc.

REFERENCE # 3

P. 3 OF 116

EA REPORT DEC51A

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK PHASE I INVESTIGATIONS

DOVER LANDFILL
TOWN OF DOVER, DUTCHESS COUNTY
NEW YORK ID NO. 314066

Prepared for

Division of Solid and Hazardous Waste
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-0001

Prepared by

EA Science and Technology
R.D. 2, Goshen Turnpike
Middletown, New York 10940

A Division of EA Engineering, Science, and Technology, Inc.

August 1986

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

The Dover Landfill site (New York ID No. 314066, EPA ID No. New) is an inactive landfill, approximately 5 acres in size, located on Pleasant Ridge Road, Town of Dover, Dutchess County, New York. The site is located on private property owned by Leo and Helen Mostachetti.

The landfill began operation in 1943-1945, receiving only residential waste from the Village of Wingdale. More recently, the landfill was leased and operated by the Town of Dover. The annual quantity of solid waste received at the site was estimated at 4,500 tons, almost all of which was residential. A small quantity of commercial waste was accepted, however, no industrial waste was permitted to be disposed of at the landfill. A shipment of hospital waste was disposed of at the site in 1982, though a radiological search resulted in no findings. There is no documentation of hazardous waste disposal at the Dover Landfill, and no data is available to evaluate the status of potential contaminant transport routes.

The preliminary HRS scores for the Dover Landfill are as follows: Migration Score (S_M) = 0; Direct Contact Score (S_{DC}) = 0. The low Migration Score is due to the lack of information pertaining to the presence of hazardous wastes at the site. The maximum potential migration score that can be estimated, assuming detection of a release of toxic and persistent compound to ground water and to surface water, is 27.53.

It is recommended that a Phase II program be conducted at the site if a determination of surface and ground-water quality is desired. The site has not been properly closed and leachate stains have been observed at the perimeter of the landfill. The proposed Phase II study includes the installation of three pairs of test borings/observation wells, and the collection and analysis of groundwater, surface water, leachate, and sediment samples. The total estimated cost to complete the Phase II investigation is $79,765.

Site Coordinates:

Latitude: 41° 39' 00"
Longitude: 73° 34' 00"

REFERENCE # 3
PAGE 7 OF 116 DOVER LANDFILL

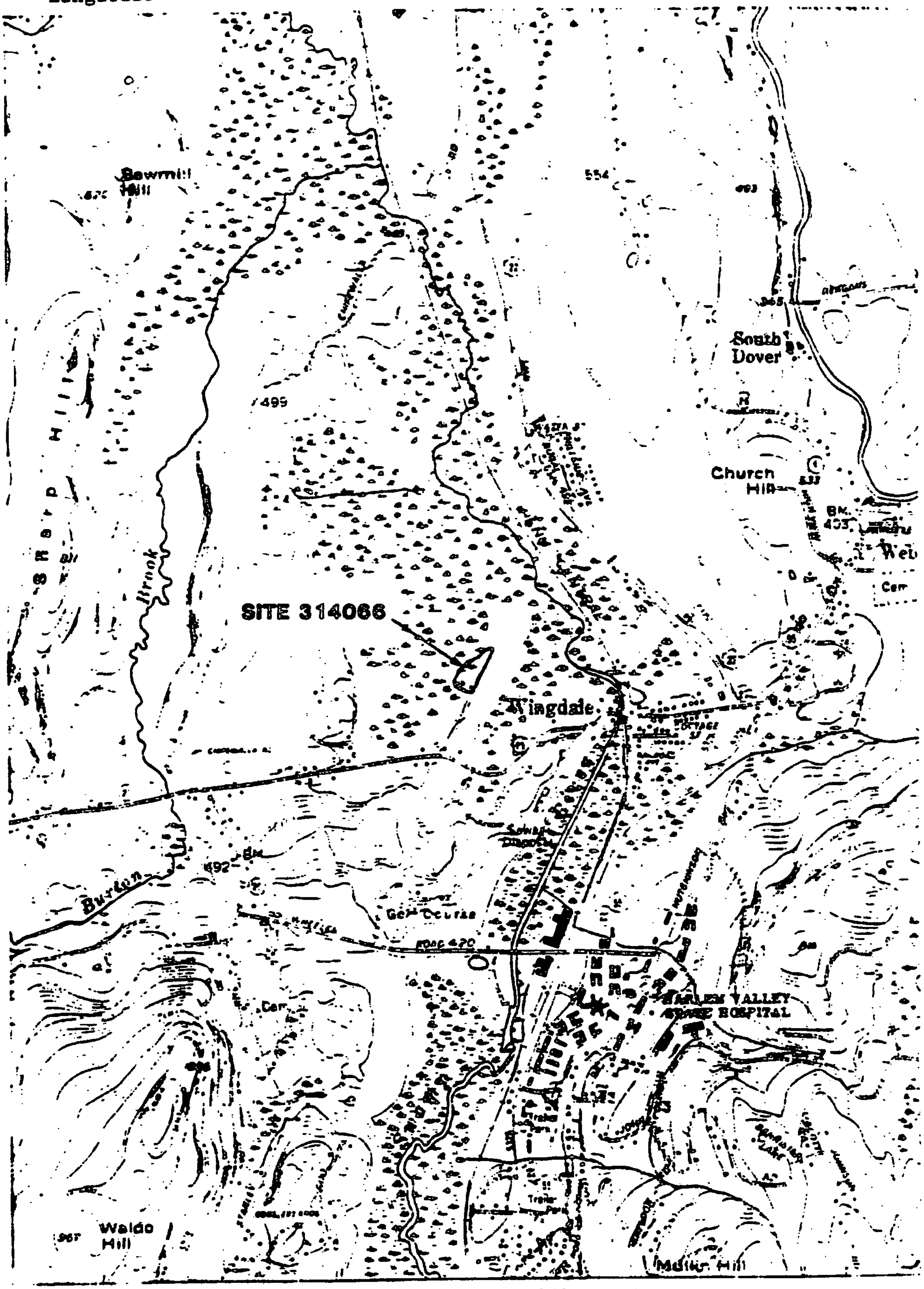


Figure 1-1. Locator map (Base map: NYSDOT. 1977 edition. 7.5-Minute Series Topographic. Scale 1:24,000).

DOVER PLAINS QUAD.

REFERENCE # 3
PAGE 8 OF 116

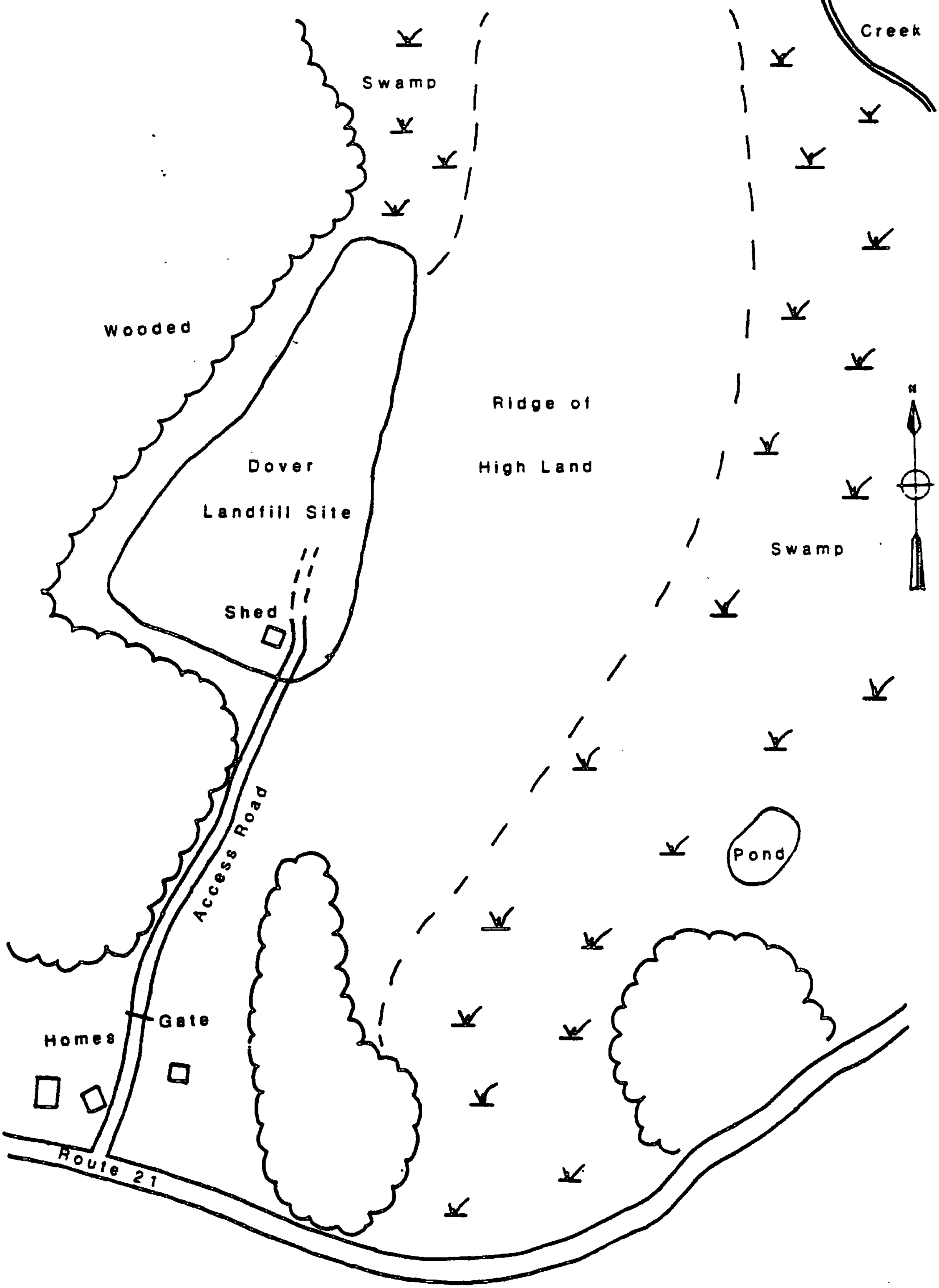


Figure 1-2. Site sketch. Dover Landfill site, 16 January 1985. (Not to scale.)

2. PURPOSE

The Dover Landfill was listed on the New York State Registry of Inactive Hazardous Wastes Sites simply because it is an inactive landfill.

The goal of the Phase I investigation of this site was to: (1) obtain available records on the site history from state, federal, county, and local agencies; (2) obtain information on site topography, geology, local surface water and ground-water use, previous contamination assessments, and local demographics; (3) interview site owners, operators, and other groups or individuals knowledgeable of site operations; (4) conduct a site inspection to observe current conditions; and (5) prepare a Phase I report. The Phase I report includes a preliminary Hazard Ranking Score (HRS), an assessment of the available information, and a recommended work plan for Phase II studies if warranted. Phase II studies are suggested if sampling and analyses will better support the HRS and possibly result in a higher score.

3. SCOPE OF WORK

The Phase I investigation of the Dover Landfill involved a site inspection by EA Science and Technology, as well as record searches and interviews. The following agencies or individuals were contacted:

Contact	Information Received
Mr. Leo Mostachetti Site Owner Mountain Road Wingdale, New York 12594 (914) 832-6146	Interview
Mr. Richard Rennia Member, Town of Dover Board Pleasant Ridge Road Wingdale, New York 12594 (914) 877-3710	Participated in Site Inspection
Mr. William Sullivan, P.E. Senior Sanitary Engineer New York State Department of Environmental Conservation 21 South Putt Corners Road New Paltz, New York 12561 (914) 255-5453	In-place toxics file
Mr. Jack Hill Director of Environmental Health Dutchess County Health Department County Office Building 22 Market Place Poughkeepsie, New York 12601 (914) 431-2044	Site file
Mr. Charlie Shaw Dutchess County Environmental Management Council Route 44 Millbrook, New York 12545 (914) 677-3488	Site file

Contact	Information Received
Mr. Louis A. Evans, Atty. New York State Department of Environmental Conservation 202 Mamaroneck Avenue White Plains, New York 10601-5381 (914) 761-6660	No file/information
Mr. Marsden Chen, P.E. New York State Department of Environmental Conservation Bureau of Site Control 50 Wolf Road Albany, New York 12233-0001 (518) 457-0639	No file/information
Mr. Kevin Walter, P.E. New York State Department of Environmental Conservation Division of Hazardous Waste Enforcement 50 Wolf Road Albany, New York 12233-0001 (518) 457-5637	No file/information
Mr. John Iannotti, P.E. New York State Department of Environmental Conservation Bureau of Remedial Action 50 Wolf Road Albany, New York 12233-0001 (518) 457-5637	No file/information
Mr. Earl Barcomb, P.E. New York State Department of Environmental Conservation Landfill Operations Vatrano Road Albany, New York 12205 (518) 457-2051	Site file
Mr. Peter Skinner, P.E. New York State Attorney General's Office Room 221 Justice Building Albany, New York 12224 (518) 474-2432	No file/information

Contact	Information Received
Mr. Ron Tramontano/Mr. Charlie Hudson Bureau of Toxic Substance Assessment New York State Department of Health Empire State Plaza Corning Tower Building Albany, New York 12237 (518) 473-8427	No file/information
Mr. James Covey, P.E. New York State Department of Health Empire State Plaza Corning Tower Building Albany, New York 12237 (518) 473-4637	Community Water Supply Atlas
Mr. Alvin Reilley New York State Department of Health Regional Director of PH Engineering 145 Huguenot Street Fifth Floor New Rochelle, New York 10801 (914) 632-4133	No file/information
Mr. Perry Katz U.S. Environmental Protection Agency Region II Room 757 26 Federal Plaza New York, New York 10278 (212) 264-4595	No file/information
Ms. Diana Messina U.S. Environmental Protection Agency Region II Surveillance and Monitoring Branch Woodbridge Avenue Edison, New Jersey 08837 (201) 321-6776	No file/information
Mr. Wayne Eliott Regional Fisheries Manager New York State Department of Environmental Conservation 21 South Putt Corners Road New Paltz, New York 12561 (914) 255-5453	Surface water use for recreation

Contact	Information Received
Mr. Robert F. Dibble District Conservationist Dutchess Soil and Water Conservation District Farm and Home Center Route 44, Post Office Box 37 Millbrook, New York 12545 (914) 677-3194	Irrigation

4. SITE ASSESSMENT - DOVER LANDFILL

4.1 SITE HISTORY

The Dover Landfill, approximately 5 acres in size, is located on private property owned by Leo and Helen Mostachetti. Mr. Mostachetti indicated during the site inspection that the landfill began operation in approximately 1943-1945, receiving only residential garbage from the Village of Wingdale (Appendix A1.1-1). More recently, the site was leased and operated by the Town of Dover. The landfill received residential and commercial wastes until closure in 1983. The disposal site operated as an open-faced dump and the annual quantity of waste received was estimated at 4,500 tons (Appendix A1.1-2). Both putrescible and non-putrescible garbage was received with no segregation of material, and open burning was common practice. A complaint issued by a neighbor indicates that unsightly and unsanitary conditions existed as early as 1968 (Appendix A1.1-3).

In 1972, legal action was taken against the Town of Dover by the Dutchess County Department of Health (DCDOH) to restrain the Town from using the landfill due to violations of the State Health Laws and Sanitary Codes (Appendix A1.1-4). A field inspection by DCDOH (Appendix A1.1-5) in 1973 indicated deposition of wastes in an unapproved low, swampy area. In 1974, the Commissioner of Health found the Town of Dover landfill to be operating in violation of Part 360 Regulations and demanded that plans be prepared and actions taken to upgrade those operations (Appendix A1.1-6).

"Operational Plan - Addendum Number One, Town of Dover Sanitary Landfill" was prepared by R. Friedman, P.E., in 1978 (Appendix A1.1-2). The plan suggested that the refuse be nearly 100 percent residential type, with only a small fraction from the commercial sector. No industrial wastes were to be accepted. Approximately 20 tons per day were to be landfilled. The plan mentions that a freshwater wetland was located about 25 ft away from the landfill, and that soils underlying the area were fine, sandy loam, and peat. Geological investigations indicated shallow depth to bedrock and approximately 6 ft to ground water.

Files at the DCDOH contained a draft of an operations permit issued by the New York State Department of Environmental Conservation (NYSDEC) in 1979 to the Town of Dover for the landfill in question (Appendix A1.1-7). The expiration date issued in that permit was 31 March 1982.

An inspection of the landfill by DCDOH on 11 May 1979 revealed that leachate stains were visible at various locations around the perimeter of the site, and that the quality of daily cover was not adequate (Appendix A1.1-8). DCDOH requested the Town of Dover to correct the problems.

The landfill was inspected during early 1980 by the DCDOH, and again was found to be operating in violation of State solid waste management laws, and the operation permit specifically (Appendix A1.1-9). Problems with quality and frequency of cover were cited.

The landfill evidently received a shipment of waste from a hospital in 1982, but a radiological search by the DCDOH yielded nothing (Appendix A1.1-10). A DCDOH memo indicates that the landfill was closed to the public in June of 1983, and that the DCDOH was endeavoring to get the landfill properly (engineered) closed as of November 1984 (Appendix A1.1-11).

4.2 SITE TOPOGRAPHY

The Dover Landfill is located aproximately 1,000 ft north of State Route 21 (Figures 1-1 and 1-2). Access to the site is via a dirt road off Route 21. The entrance road to the property is closed to vehicles, however, the site is not fenced off and is accessible to the public.

The landfill, approximately 5 acres in size, was constructed on the west side of a ridge and expanded westerly into a flat wet area. Part of the marsh was used as a disposal area during operation of the landfill. The landfill, which was filled with residential garbage, is estimated to be approximately 50 ft deep. Surface topography is irregular with garbage (metal, tires, trash) protruding through the cover material. Cover material was obtained from a soil mining operation in the Town of Dover and transported to the site by truck.

The nearest residence to the site is located about 900 ft to the southwest near the access road. The nearest commercial building is an office building for a peat mining operation located approximately 1,500 ft west of the landfill.

The landfill is partially surrounded by marsh land to the west. A permanent stream, Swamp River, runs north through the marsh and is located approximately 1,500 ft northeast of the landfill (by way of apparent drainage).

4.3 SITE HYDROGEOLOGY

The site is directly underlain by Carlisle Muck over glacial outwash sand and gravel (85 percent of base area) and fine sandy loam/glacial outwash (15 percent of base area along the eastern ridge) with a reported depth to ground water of about 4 ft below ground surface, based on 1976 soil borings (Appendixes A1.1-2 and A1.3-1). The 15 percent of landfill area along the ridge is likely to be underlain by areas of shallow bedrock (less than 5 ft deep) as evidenced from test pits (Appendix A1.1-2) across the rise adjacent to the eastern border of the landfill, and topographic features evident in Figure 1-2.

The glacial sediments are underlain by the Cambro-Ordovician Age Stockbridge Formation (marble bedrock) which is present in a relatively narrow area oriented approximately north-south. There are numerous areas in the valley where bedrock is reportedly at or within 3 ft of ground surface, such as the ridge adjacent to, and east of the landfill site. These areas of shallow bedrock are reportedly covered by a thin veneer (<3 ft) of glacial till. Approximately 2,000 ft east of the site is a major thrust fault which is oriented along the length of this formation.

Based upon the available data, both the glacial sediment and the bedrock are designated as the aquifer of concern. Hydraulic connection between the two general aquifers cannot be confirmed, however, such connection is possible, especially with the bedrock ridge present immediately east of the landfill. The glacial sediment portion of the aquifer of concern consists of the sand and gravel deposits which are contiguous with the landfill property and bounded by adjacent glacial till covered hills as shown on Appendix A1.3-1 (Gerber 1982). The marble bedrock portion of the aquifer of concern, designated by Gerber (1982) as Aquifer No. 76, is bounded on the west by schist and phyllite of the Walloomsac and Everett Formations, and bounded on the east by a thrust fault located about 2,000 ft from the site as shown on Appendix A1.3-2 (Gerber 1982).

There are no reported public water supply wells constructed in the glacial sediments, however, there may be unreported private domestic wells. Although the Stockbridge bedrock portion of the aquifer has been developed by numerous reported wells, most of them are located east of the thrust fault. The landfill site is located west of the thrust fault. Surface runoff from the site flows into an adjacent wetland and then into the Swamp River which flows north through that area. The Swamp River provides water supply for the Harlem Valley Psychiatric Center. However, the Center's intake is located about 0.75 mi upstream of the Dover landfill. No downstream intakes are known to exist.

The data in this section is based upon the following references unless otherwise noted:

1. Gerber, R.G. 1982. Final Report, Water Resources Study for Dutchess County: Dover Plains and Pawling Quads with Surficial and Bedrock Aquifer Delineations.

2. Simmons, E.T. et al. 1961. Ground-Water Resources of Dutchess County New York: Well Logs.

3. New York State Department of Health. 1982. New York State Atlas of Community Water System Sources.

4.4 SITE CONTAMINATION

Waste Types and Quantities

Landfill received residential and commercial wastes. In 1982, the landfill evidently received a shipment of waste from a hospital. Nothing was detected by a radiological search by the Dutchess County Department of Health.

Ground Water

No data available.

Surface Water

No data available.

Soil

No data available.

Air

During EA's site inspection on 16 January 1985, total volatile organics were measured using a photoionization detection device (HNU). No measurements above background were recorded. No other analytical data are available (Chapter 3).

DOVER LANDFILL
TOWN OF DOVER, DUTCHESS COUNTY

The Dover Landfill, an inactive sanitary landfill covering an area of approximately 5 acres, is located off of Pleasant Ridge Road, Town of Dover, Dutchess County, New York on private property owned by Leo and Helen Mostachetti. Operation of the landfill begain in 1943-1945, receiving residential waste from the Village of Wingdale. Later, the site was leased and operated by the Town of Dover for disposal of residential and commercial solid waste.

The landfill forms a ridge which is partially surrounded by a low marsh area. The soils underlying the site are glacial outwash sand and gravel deposits and Carlisle Muck. The Swamp River runs through the marsh approximately 1,500 ft northeast of the landfill.

The landfill was cited for many operating violations including inadequate or lack of daily cover and compaction, open burning, and disposal of waste in an unapproved area in the marsh. Legal action was taken by the DCDOH in 1972 to bring the landfill into compliance with State Health Laws and Sanitary Codes.

The Dover Landfill was not permitted to receive industrial wastes, however, it was suspected that waste from a hospital was received in 1982. A radiological search conducted by DCDOH resulted in no findings. There is no other documented evidence of hazardous waste disposal at the site, and no data is available to evaluate the status of potential contaminant transport routes.

Site Coordinates:

Latitude: 41° 39' 00"
Longitude: 73° 34' 00"

REFERENCE # 3
PAGE 21 OF 116

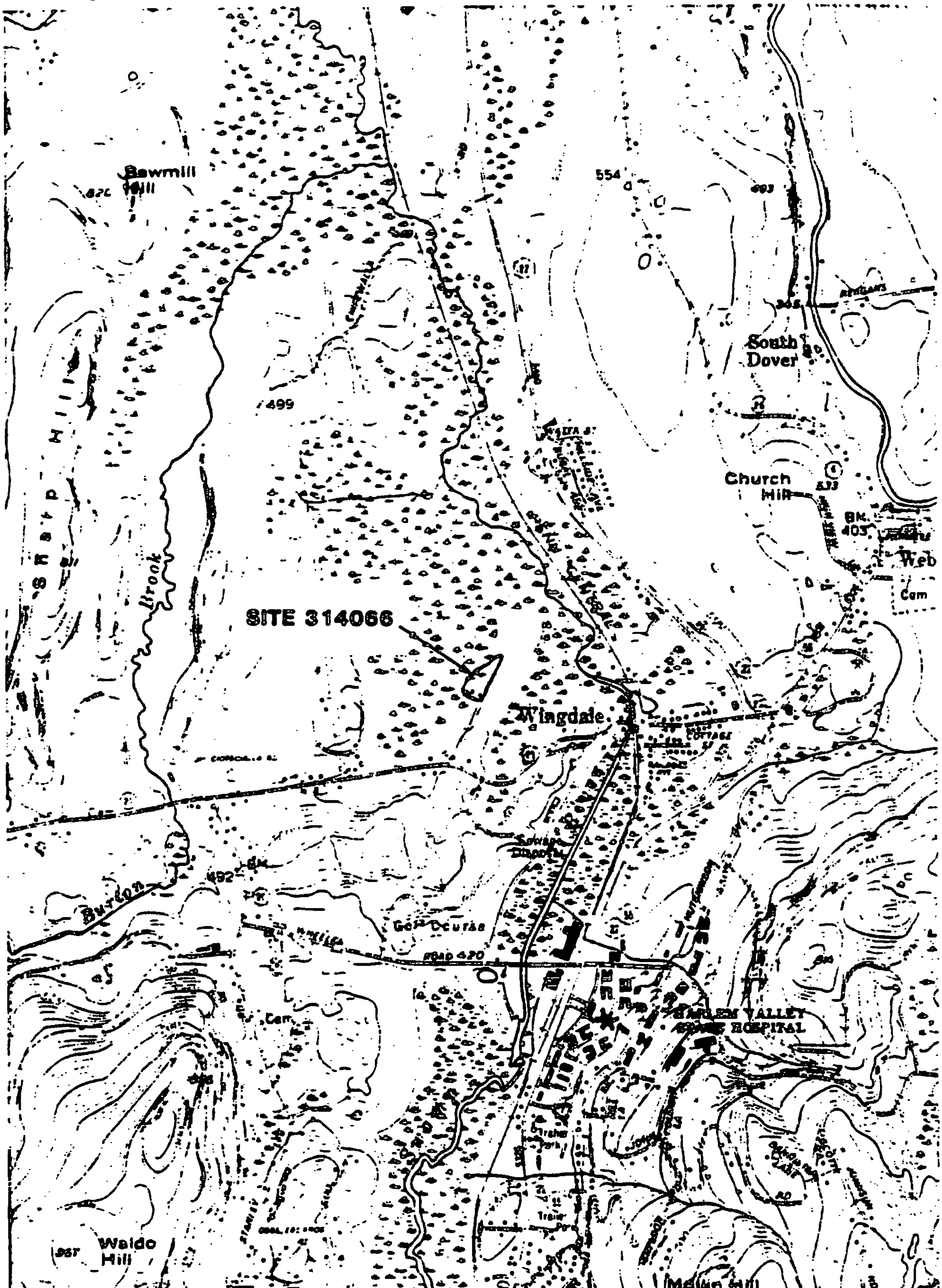


Figure 1-1. Locator map (Base map: NYSDOT. 1977 edition. 7.5-Minute Series Topographic. Scale 1:24,000).

DOVER PLAINS QUAD.

REFERENCE # 3
PAGE 22 OF 116

Facility name: Dover Landfill

Location: Pleasant Ridge Road (County Rd. 21), Wingdale, NY 12594

EPA Region: II

Person(s) in charge of the facility: Leo Mostachetti (owner)
Mountain Road
Wingdale, New York 12594

Name of Reviewer: EA Science & Technology Date: 18 July 1985

General description of the facility:
(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

The Dover Landfill is an inactive landfill about 5 acres in size, located off Pleasant Ridge Road near the Village of Wingdale, NY. The site received residential and commercial wastes from the 1940s to 1983. There is no documentation of hazardous waste disposal. No data are available to evaluate the status of potential contaminant transport routes.

Scores: $S_M = 0$ ($S_{gw} = 0$ $S_{sw} = 0$ $S_a = 0$)
S_{FE} = N/A
$S_{DC} = 0$

Maximum $S_M = 27.53$

FIGURE 1
HRS COVER SHEET

REFERENCE # 3
PAGE 23 OF 116

Ground Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max Score	Ref. (Section)	Max. Possible
1 Observed Release	0 45	1	0	45	3.1	45
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.						
2 Route Characteristics					3.2	
Depth to Aquifer of Concern	0 1 2 3	2	6	6		
Net Precipitation	0 1 2 3	1	2	3		
Permeability of the Unsaturated Zone	0 1 2 3	1	2	3		
Physical State	0 1 2 3	1	0	3		
Total Route Characteristics Score			10	15		
3 Containment	0 1 2 3	1	3	3	3.3	
4 Waste Characteristics					3.4	
Toxicity/Persistence	0 3 6 9 12 15 18	1	0	18		18
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	0	8		1
Total Waste Characteristics Score			0	26		19
5 Targets					3.5	
Ground Water Use	0 1 2 3	3	9	9		
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	20	40		
Total Targets Score			29	49		2
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5			0	57,330		24,79
7 Divide line 6 by 57,330 and multiply by 100	S_{gw} = 0					1

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Max. Possible

Surface Water Route Work Sheet							
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max Score	Ref (Section)	Max. Possible
1 Observed Release	0 45	1	0	45	4.1	45
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.						
2 Route Characteristics					4.2	
Facility Slope and Intervening Terrain	0 1 2 3	1	3 2	3		
1-yr. 24-hr. Rainfall	0 1 2 3	1		3		
Distance to Nearest Surface Water	0 1 2 3	2	4	6		
Physical State	0 1 2 3	1	0	3		
Total Route Characteristics Score			9	15		
3 Containment	0 1 2 3	1	3	3	4.3	
4 Waste Characteristics					4.4	
Toxicity/Persistence	0 3 6 9 12 15 18	1	0	18		18
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	0	8		1
Total Waste Characteristics Score			0	26		19
5 Targets					4.5	
Surface Water Use	0 1 2 3	3	9	9		
Distance to a Sensitive Environment	0 1 2 3	2	6	6		
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	0	40		
Total Targets Score			15	55		15
6 If line 1 is 45, multiply 1 x 4 x 5. If line 1 is 0, multiply 2 x 3 x 4 x 5			0	64,350		12,825
7 Divide line 6 by 64,350 and multiply by 100	S_{sw} =		0			19.

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

REFERENCE # 3
PAGE 25 OF 116

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max Score	Ref. Section
1 Observed Release	0 45	1	0	45	5.1
Date and Location:					
Sampling Protocol:					
If line 1 is 0, the S_a = 0. Enter on line 5. If line 1 is 45, then proceed to line 2.					
2 Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
Total Targets Score				39	
4 Multiply 1 x 2 x 3				35,100	
5 Divide line 4 by 35,100 and multiply by 100	S_a = 0				

FIGURE 9
AIR ROUTE WORK SHEET

	s	s^2
Groundwater Route Score (S_{gw})	0	0
Surface Water Route Score (S_{sw})	0	0
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		0
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		0
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		0

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Maximum S_M = 27.53

Fire and Explosion Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max Score	Ref (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100		S_{FE} = N/A			

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max Score	Ref. (Section)
1 Observed Incident	0 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 3	1	3	3	8.2
3 Containment	0 15	1	15	15	8.3
4 Waste Characteristics Toxicity	0 1 2 3	5	0	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 3 4 5	4	8	20	
Distance to a Critical Habitat	0 1 2 3	4	0	12	
Total Targets Score			8	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0	21,600	
7 Divide line 6 by 21,600 and multiply by 100			S_{DC} = 0		

FIGURE 12
DIRECT CONTACT WORK SHEET

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible, summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: Dover Landfill

LOCATION: Pleasant Ridge Road (County Road 21), Town of Dover, Dutchess Co.

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

No data. Assigned value = 0.

Rationale for attributing the contaminants to the facility:

Not applicable.

***

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

Both the glacial sediment and the bedrock are designated as the aquifer of concern. The glacial sediment aquifer consists of sand and gravel deposits contiguous with the landfill property. The marble bedrock aquifer is designated by Gerber (1982) as Aquifer No. 76 (Appendixes A1.3-1 and A1.3-2).

Depth(s) from the ground surface to the highest seasonal level of the saturated zone (water table[s]) of the aquifer of concern:

The depth is estimated at about 56 ft below the top of the fill. The depth of the landfill is not known but was estimated to be at least 50 ft by Leo Mostachetti (Appendix A1.1-1).

Depth from the ground surface to the lowest point of waste disposal/storage:

Based on 1976 soil borings referred to in an engineer's report (Appendix A1.1-2) ground water was estimated to be 6 ft below the original elevation of land used for the landfill.

Assigned value = 3.

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

40 inches.

Reference: Dethier, B.E. 1966. Mean annual precipitation, in inches, 1931-1964, in Precipitation in New York State. Cornell Univ. Agr. Expt. Sta. Bull. 1009. Ithaca, New York.

Mean annual lake or seasonal evaporation (list months for seasonal):

28 inches.

Reference: U.S. EPA. 1984. Uncontrolled Hazardous Waste Site Ranking System. A Users Manual (HW-10). Originally published in the July 16, 1982, Federal Register.

Net precipitation (subtract the above figures):

12 inches. Assigned value = 2.

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Dover fine, sandy loam derived from glacial till.

References: U.S. Department of Agriculture. 1955. Soil Survey Dutchess County. (Appendix Al.5-1.)
Gerber, R.G. 1982. Final Report, Water Resources Study for Dutchess County. (Appendix Al.3-1.)

Permeability associated with soil type:

Moderately permeable, estimated range $10^{-3} - 10^{-5}$ cm/sec.
Assigned value = 2.

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

Unknown. Assigned value = 0.

***

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Landfill: No liner provided, no leachate collection system, landfill surface does not preclude ponding, landfill surface precludes run-on.

Reference: EA Site Inspection, 16 January 1985.

Method with highest score:

No liner provided and landfill surface does not preclude ponding. Assigned value = 3.

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

No data available. Assigned value = 0.

Reference: Section 4.4.

Compound with highest score:

Not applicable.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Unknown. Assigned value = 0.

REFERENCE # 3
33 - 116

Basis of estimating and/or computing waste quantity:

Not applicable.

***

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Ground water in aquifer of concern is used for drinking water source. Assigned value = 3.

Reference: New York State Department of Health. 1982. New York State Atlas of Community Water System Sources. (Appendix A1.5-2.)

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

The nearest building is a residence located approximately 500 ft southeast of the landfill. (EA Site Inspection, 16 January 1985.)

Distance to above well or building:

900 ft. Assigned value = 4.

Reference: NYSDOT. 1973. 7.5-Minute Series Topographic: Dover Plains Quad.

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

Aquifer of concern is the carbonate bedrock and the overlying sand and gravel deposits that are contiguous with the site, bounded by phyllites/schist on the east and west. (Appendixes A1.3-1 and A1.3-2.)

Community Water Supplies:

Schreiber Water Works	110

Reference: New York Department of Health. 1982. New York State Atlas of Community Water System Sources. (Appendix A1.5-2.)

Homes with private wells in aquifer of concern:

173 x 3.8	657
Total	767

Reference: NYSDOT. 1973. 7.5-Minute Series Topographic: Dover Plains and Pawling Quads.

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

Information requested on 7 March 1986 was not available as of 8 October 1986.

Reference: Dibble, R. 1986. Dutchess County SWCD. Personal Communication.

Total population served by ground water within a 3-mile radius:

767. Assigned value = 2. Combined score = 20.

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

No data available. Assigned value = 0.

Rationale for attributing the contaminants to the facility:

Not applicable.

***

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Approximately 30 percent. (EA Site Inspection, 16 January 1985.)

Name/description of nearest downslope surface water:

Swamp River: a permanent surface water which runs through a marsh area adjacent and north of the site.

Reference: NYSDOT. 7.5-Minute Series Topographic: Dover Plains Quad.

Average slope of terrain between facility and above-cited surface water body in percent:

<3 percent.

Reference: EA Site Inspection, 16 January 1985.

Is the facility located either totally or partially in surface water?

Yes. The landfill is bounded on the west by a marsh. A portion of the marsh area was filled with residential trash. (EA Site Inspection, 16 January 1985.)

Assigned value = 3.

Is the facility completely surrounded by areas of higher elevation?

No. The landfill forms a ridge rising approximately 50 ft above the surface of the surrounding marsh. (EA Site Inspection, 16 January 1985.)

1-Year, 24-Hour Rainfall in Inches

2.5 inches. Assigned value = 2.

Reference: U.S. EPA. 1984. Uncontrolled Hazardous Waste Site Ranking System. A Users Manual (HW-10). Originally published in the July 16, 1982, Federal Register.

Distance to Nearest Downslope Surface Water

The Swamp River is approximately 1,500 ft downgradient of the site.

Reference: NYSDOT. 1973. 7.5-Minute Series Topographic: Dover Plains Quad.

Assigned value = 2.

Physical State of Waste

Unknown. Assigned value = 0.

***

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Landfill: cover material is not adequate, landfill slope does not preclude runoff, no diversion system present. (EA Site Inspection, 16 January 1985.)

Method with highest score:

No diversion system present. Assigned value = 3.

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

No data available. Assigned value = 0.

Reference: Section 4.4.

Compound with highest score:

Not applicable.

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Unknown. Assigned value = 0.

Basis of estimating and/or computing waste quantity:

Not applicable.

***

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

Recreational. Assigned value = 2.

References: NYSDOH. 1982. New York State Atlas of Community Water System Sources. (Appendix A1.5-2.)
Elliot, W. 1986. NYSDEC Region 3, Regional Fisheries Manager. Personal Communication. 29 August. (Appendix A1.5-3.)

Is there tidal influence?

No.

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

None. Assigned value = 0.

Reference: NYSDOT. 1973. 7.5-Minute Series Topographic: Dover Plains Quad.

Distance to 5-acre (minimum) freshwater wetland, if 1 mile or less:

Landfill is bordered by a freshwater wetland. Assigned value = 3.

Reference: NYSDOT. 1973. 7.5-Minute Series Topographic: Dover Plains Quad.

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

None. Assigned value = 0.

Reference: Significant Habitat Unit. 1985. Significant Habitat Overlays. Division of Fish and Wildlife, New York State Department of Environmental Conservation, Delmar, New York.

Population Served by Surface Water

Location(s) of water supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static waterbodies) downstream of the hazardous substance and population served by each intake:

The Harlem Valley Psychiatric water intake is located about 0.75 mi upstream of the landfill and it is not anticipated that the landfill would have any adverse effect on their surface water supply.

Assigned value = 0.

Reference: NYSDOH. 1982. New York State Atlas of Community Water System Sources. (Appendix A1.5-2.)

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre).

Information requested 7 March 1986 was unavailable as of 8 October 1986.

Reference: Dibble, R. 1986. Dutchess County SWCD. Personal Communication.

Total population served:

Assigned value = 0.

Name/description of nearest of above waterbodies:

Not applicable.

Distance to above-cited intakes, measured in stream miles.

Not applicable.

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

During EA's site inspection (16 January 1985), total volatile organics were measured using a photoionization detection device. No readings above background were recorded. No other data are available (Chapter 3). Assigned value = 0.

Date and location of detection of contaminants:

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

***

2 WASTE CHARACTERISTICS

<u>Reactivity and Incompatibility</u>

Most reactive compound:

Most incompatible pair of compounds:

Toxicity

Most toxic compound:

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity:

***

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Distance to 5-acre (minimum) freshwater wetland, if 1 mile or less:

Distance to critical habitat of an endangered species, if 1 mile or less:

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

DIRECT CONTACT

1 OBSERVED INCIDENT

Date, location, and pertinent details of incident:

None reported. (Chapter 3.)

Assigned value = 0.

***

2 ACCESSIBILITY

Describe type of barrier(s):

Barriers do not completely surround the site (EA Site Inspection, 16 January 1985.)

Assigned value = 3.

3 CONTAINMENT

Type of containment, if applicable:

Site is a landfill, cover material is not adequate (EA Site Inspection, 16 January 1985).

Assigned value = 15.

***

4 WASTE CHARACTERISTICS

Toxicity

Compounds evaluated:

No data available. Reference: Section 4.4.

Compound with highest score:

Assigned value = 0.

***

5 TARGETS

Population Within 1-Mile Radius

680. Residences in a 1-mi radius counted from the topographic map (150 x 3.8 persons = 570) plus the populaton served by Schreiber Water Works (110).

References: NYSDOH. 1982. New York State Atlas of Community Water System Sources. (Appendix A1.5-2.)
NYSDOT. 1973. 7.5-Minute Series Topographic: Dover Plains Quad.

Assigned value = 2.

Distance to Critical Habitat (of Endangered Species)

None. Assigned value = 0.

Reference: Significant Habitat Unit. 1985. Significant Habitat Overlays. Division of Fish and Wildlife, New York State Department of Environmental Conservation, Delmar, New York.

United States
Environmental Protection
Agency

Office of Emergency and
Remedial Response
Washington, DC 20460

EPA Form 2070-12
July, 1981

Dover Landfill

REFERENCE # 3
PAGE 44 OF 116

EPA

Potential Hazardous Waste Site

Preliminary Assessment

REFERENCE # 3
PAGE 45 OF 116

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980508139

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Dover Landfill	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Pleasant Ridge Road (County Road 21)
03 CITY: Dover	04 STATE: NY; 05 ZIP CODE: 12594; 06 COUNTY: Dutchess; 07 COUNTY CODE: ; 08 CONG DIST:
09 COORDINATES LATITUDE: 41° 39' 00.0" LONGITUDE: 73° 34' 30.0'	

10 DIRECTIONS TO SITE (Starting from nearest public road)

From Poughkeepsie, NY, take State Rt. 55 South to Pleasant Ridge Road. Take Pleasant Ridge Road east approximately 8.2 miles to entrance to landfill. Entrance road is about 1/2 mile west of Village of Wingdale.

III. RESPONSIBLE PARTIES

01 OWNER (If known): Leo Mostachetti	02 STREET (Business, mailing, residential): Mountain Road
03 CITY: Wingdale	04 STATE: NY; 05 ZIP CODE: 12594; 06 TELEPHONE NUMBER: (914) 832-6146
07 OPERATOR (If known and different from owner): Town of Dover	08 STREET (Business, mailing, residential): Pleasant Ridge Road
09 CITY: Village of Wingdale	10 STATE: NY; 11 ZIP CODE: 12594; 12 TELEPHONE NUMBER: (914) 832-6839

13 TYPE OF OWNERSHIP (Check one)
X A. PRIVATE ☐ B. FEDERAL ______ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER ______ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED ______ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED ______ (MONTH DAY YEAR) X C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
X YES DATE 1 16 85 (MONTH DAY YEAR)
☐ NO
BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE X D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER ______
CONTRACTOR NAME(S): EA Science and Technology

02 SITE STATUS (Check one)
☐ A. ACTIVE X B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1943-1945 (BEGINNING YEAR) | 1983 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

It is not known if any hazardous substances were disposed of at the landfill.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

The site has not been properly closed. Cover material used for daily and final cover was inadequate. The potential for leachate reaching ground water and surface water exists.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) X B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)		03 TELEPHONE NUMBER
Ray Kapp	EA Science and Technology		(914) 692-6706
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY**	**06 ORGANIZATION**	**07 TELEPHONE NUMBER** / **08 DATE**
Linda H. McConnell		EA	(301) 771-4950 / [illegible] (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980508139

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

A. SOLID
B. POWDER, FINES
C. SLUDGE
D. OTHER Unknown (Specify) — X
E. SLURRY
F. LIQUID
G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS unknown
CUBIC YARDS
NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

A. TOXIC
B. CORROSIVE
C. RADIOACTIVE
D. PERSISTENT
E. SOLUBLE
F. INFECTIOUS
G. FLAMMABLE
H. IGNITABLE
I. HIGHLY VOLATILE
J. EXPLOSIVE
K. REACTIVE
L. INCOMPATIBLE
M. NOT APPLICABLE

unknown

III. WASTE TYPE Unknown

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers) Not Applicable

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

New York State Department of Environmental Conservation files.
Dutchess County Department of Health files.

United States
Environmental Protection
Agency

Office of Emergency and
Remedial Response
Washington DC 20460

EPA Form 2070-13
July 1981

EPA

Potential Hazardous Waste Site

Site Inspection Report

REFERENCE # 3
PAGE 48 OF 116

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980506139

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Dover Landfill

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Pleasant Ridge Road

03 CITY: Town of Dover / Village of Wingdale

04 STATE: NY | 05 ZIP CODE: 12594 | 06 COUNTY: Dutchess | 07 COUNTY CODE: | 08 CONG DIST:

09 COORDINATES: LATITUDE 41° 39' 00.0" LONGITUDE 73° 34' 00.0"

10 TYPE OF OWNERSHIP (Check one): X A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 1 16 85 (MONTH DAY YEAR)

02 SITE STATUS: ☐ ACTIVE X INACTIVE

03 YEARS OF OPERATION: 1943-45, 1983 (BEGINNING YEAR, ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply): ☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ☐ E. STATE X F. STATE CONTRACTOR EA Science & Tech. (Name of firm) ☐ G. OTHER

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Linda K. McConnell	Environmental Engineer	EA	(301) 771-4950

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Gloria McCleary	Environmental Engineer	EA	(301) 771-4950
Richard Rennia	Council Member	Town of Dover Board Supvis.	(914) 877-3710
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
Leo Mostachetti	Landowner	Wingdale, NY 12594	(914) 832-6146
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one): X PERMISSION ☐ WARRANT

18 TIME OF INSPECTION: 0930 hours

19 WEATHER CONDITIONS: Cold, 8 F, Clear, Windy

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Ray Kapp	EA Science and Technology	(914) 692-6706

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Linda K. McConnell		EA	(301) 771-4950	7 26 85

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 2 - WASTE INFORMATION

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D980508139

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)
- A. SOLID
- B. POWDER, FINES
- C. SLUDGE
- E. SLURRY
- F. LIQUID
- G. GAS
- X D. OTHER Unknown (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)
TONS unknown
CUBIC YARDS
NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply) unknown
- A. TOXIC
- B. CORROSIVE
- C. RADIOACTIVE
- D. PERSISTENT
- E. SOLUBLE
- F. INFECTIOUS
- G. FLAMMABLE
- H. IGNITABLE
- I. HIGHLY VOLATILE
- J. EXPLOSIVE
- K. REACTIVE
- L. INCOMPATIBLE
- M. NOT APPLICABLE

III. WASTE TYPE Unknown

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers) Unknown

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers) Not Applicable

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Dutchess County Department of Health files
New York State Department of Environmental Conservation files

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: NY
02 SITE NUMBER: D980508139

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE ______) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 767
04 NARRATIVE DESCRIPTION

The glacial sediment and bedrock aquifers are designated as aquifers-of-concern. The glacial sediment aquifer consists of sand and gravel deposits. Bedrock aquifer is Cambro-Ordovician Age Stockbridge Formation (marble), designated as Aquifer No. 76 by Gerber (1982). Refer to Section 4.3

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE ______) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: zero
04 NARRATIVE DESCRIPTION

A permanent stream, Swamp River, is located about 1,500 feet northeast of the landfill and runs through the wetland adjacent to the site.
Refer to Sections 4.2 and 4.3.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE ______) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______
04 NARRATIVE DESCRIPTION

Unknown.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE ______) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______
04 NARRATIVE DESCRIPTION

Unknown.

01 ☒ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE ______) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______
04 NARRATIVE DESCRIPTION

The site is easily accessible to the public and is not fenced off. A barrier is present on the entrance road restricting access to vehicles. Scrap metal and residential garbage is protruding through the cover material.

01 ☐ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE ______) — ☒ POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 5 (Acres)
04 NARRATIVE DESCRIPTION

No data available.

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE ______) — ☒ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 767
04 NARRATIVE DESCRIPTION

A community well, the Schreiber Water Works, is located 0.42 miles north of the site in the bedrock aquifer of concern. No public water supply system is present near the site. Unreported private wells are probably located in the aquifer of concern.

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE ______) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: ______
04 NARRATIVE DESCRIPTION

Unknown.

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE ______) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______
04 NARRATIVE DESCRIPTION

Unknown.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D980508139

II. HAZARDOUS CONDITIONS AND INCIDENTS (continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE ________) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Unknown.

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE ________) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION (include name(s) of species)

Unknown.

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE ________) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Unknown.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids/Leaking drums) — 02 ☐ OBSERVED (DATE ________) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED ________ — 04 NARRATIVE DESCRIPTION

Unknown.

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE ________) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Unknown.

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE ________) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

No sewers, storm drains, or wastewater treatment plants are known to be located within 1 mile of the landfill.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE ________) — ☐ POTENTIAL — ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Unknown.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 767

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Gerber, R.G. 1982. Final Report, Water Resources Study for Dutchess County.
NY State Dept. Health. 1982. NY State Atlas of Community Water System Sources.
U.S.G.S. Topographic Map, Dover Plains, Pawling, Verplanck Quads. Dutchess Co. NY.

REFERENCE # 3
PAGE 52 OF 116

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980535139

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A NPDES				
☐ B UIC				
☐ C AIR				
☐ D RCRA				
☐ E RCRA INTERIM STATUS				
☐ F SPCC PLAN				
☒ G STATE (Specify) NY DEC	0547	Unknown	3/31/82	Permit for operation
☐ H LOCAL (Specify)				
☐ I OTHER (Specify)				
☐ J NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A SURFACE IMPOUNDMENT		
☐ B PILES		
☐ C DRUMS, ABOVE GROUND		
☐ D TANK, ABOVE GROUND		
☐ E TANK, BELOW GROUND		
☒ F LANDFILL	unknown	
☐ G LANDFARM		
☐ H OPEN DUMP		
☐ I OTHER (Specify)		

04 TREATMENT (Check all that apply)

☐ A INCENERATION
☐ B UNDERGROUND INJECTION
☐ C CHEMICAL/PHYSICAL
☐ D BIOLOGICAL
☐ E WASTE OIL PROCESSING
☐ F SOLVENT RECOVERY
☐ G OTHER RECYCLING/RECOVERY
☐ H OTHER (Specify)

05 OTHER

☒ A BUILDINGS ON SITE

06 AREA OF SITE

5 (Acres)

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A ADEQUATE, SECURE ☐ B MODERATE ☒ C INADEQUATE, POOR ☐ D INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC

No liner provided. Quality of cover material used is not adequate--sand and gravel was used for daily and final cover. No leachate collection systems provided. Surface topography of landfill may encourage ponding.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES ☐ NO

02 COMMENTS

Site is easily accessible to public; no fencing provided. A barrier on the entrance road prevents access to vehicles.

VI. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

New York State Department of Environmental Conservation files.
Site inspection conducted 1/16/85 by New York State contractor.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: NY
02 SITE NUMBER: D980508139

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A ☐	B ☒
NON-COMMUNITY	C ☐	D ☒

02 STATUS unknown

ENDANGERED	AFFECTED	MONITORED
A ☐	B ☐	C ☐
D ☐	E ☐	F ☐

03 DISTANCE TO SITE
A 0.42 (mi)
B 0.17 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A ONLY SOURCE FOR DRINKING
☐ B DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
☐ C COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
☐ D NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 767

03 DISTANCE TO NEAREST DRINKING WATER WELL 0.17 (mi)

04 DEPTH TO GROUNDWATER 6 (ft)

05 DIRECTION OF GROUNDWATER FLOW Estimated to be W-NW

06 DEPTH TO AQUIFER OF CONCERN 20 (ft)

07 POTENTIAL YIELD OF AQUIFER unknown (gpd)

08 SOLE SOURCE AQUIFER ☐ YES ☒ NO

09 DESCRIPTION OF WELLS (including useage, depth, and location relative to population and buildings)

A community well developed in the bedrock aquifer of concern is located 0.42 miles north of the site at the Schreiber Water Works. The well serves 110 people. Other unreported private wells are probably developed in the aquifer of concern.

10 RECHARGE AREA
☒ YES
☐ NO
COMMENTS

11 DISCHARGE AREA
☒ YES
☐ NO
COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A RESERVOIR, RECREATION, DRINKING WATER SOURCE
☐ B IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☐ C COMMERCIAL, INDUSTRIAL
☐ D NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME	AFFECTED	DISTANCE TO SITE
Swamp River	☐	0.28 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE A 680 NO. OF PERSONS
TWO (2) MILES OF SITE B 3,385 NO. OF PERSONS
THREE (3) MILES OF SITE C 5,171 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION 0.17 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE 372

04 DISTANCE TO NEAREST OFF-SITE BUILDING 0.17 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

The landfill is located approximately 0.3 miles west of the Village of Wingdale, and 6 miles south of the Town of Dover Plains. The site is situated in a rural area.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: D980508139

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A 10^{-6} – 10^{-8} cm/sec ☐ B 10^{-4} – 10^{-6} cm/sec ☒ C 10^{-4} – 10^{-3} cm/sec ☐ D GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B RELATIVELY IMPERMEABLE (10^{-4} – 10^{-6} cm/sec) ☐ C RELATIVELY PERMEABLE (10^{-2} – 10^{-4} cm/sec) ☐ D VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
Unknown (ft)	Unknown (ft)	Unknown

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
12 (in)	2.5 (in)	30 %	Southwest	< 3 %

09 FLOOD POTENTIAL
SITE IS IN none YEAR FLOODPLAIN

10 ☒ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)
ESTUARINE A None (mi) | OTHER freshwater B < 0.01 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
N/A (mi)
ENDANGERED SPECIES None

13 LAND USE IN VICINITY
DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS, NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A 0.28 (mi)	B 0.10 (mi)	C Unknown (mi)	D Unknown (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The Dover Landfill is situated on the side of a ridge. Bordering the site on the west is a marsh. The highest point of elevation on the landfill is approximately 50 feet above the surface of the marsh. About 1,500 feet northeast of the landfill is a peat mining operation. A permanent stream, Swamp River, runs through the marsh and is located 0.28 miles north of the landfill.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NY State Dept. Health. 1982. NY State Atlas of Community Water System Sources.
U.S.G.S. Topographic Map. Dover Plains Quadrangle, Dutchess County, New York.
Site inspection conducted 1/16/85 by a New York State contractor.

L IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D980508139

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

II. SAMPLES TAKEN Not applicable

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER			
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
Radioactivity	Radiological search conducted by Dutchess Co. Health Dept. 2/4/82. No radioactivity detected.
Percent Slope	Slope measurements taken of site and surrounding terrain 1/16/85
Volatile Organic vapors	Organic vapor measurements taken onsite with HNU on 1/16/85 - none detected.

IV. PHOTOGRAPHS AND MAPS

01 TYPE X GROUND X AERIAL

02 IN CUSTODY OF EA Science and Technology
(Name of organization or individual)

03 MAPS
X YES
☐ NO

04 LOCATION OF MAPS
EA Science and Technology, Middletown, New York 10940

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

Soil borings were conducted 12/1/76 on land immediately adjacent and west of the site to determine potential for extension of landfill by the Town of Dover. Subsurface soil investigations were also conducted by Town of Dover on land immediately east of site (refer to A1.1-2) to determine soil type.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Dutchess County Department of Health files.
New York State Department of Environmental Conservation files.

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980050139

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Leo Mostachetti		Mountain Road		Wingdale	NY	12594

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

New York State Department of Environmental Conservation files.

REFERENCE # 3

PAGE 51 OF 116

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D980508139

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
None	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER
Town of Dover	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Pleasant Ridge Road	

05 CITY	06 STATE	07 ZIP CODE
Wingdale	NY	1259-

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
Unknown	Leo Mostachetti

01 NAME	02 D+B NUMBER
Village of Wingdale	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
Pleasant Ridge Road	

05 CITY	06 STATE	07 ZIP CODE
Wingdale	NY	12594

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
Unknown	Leo Mostachetti

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Dutchess County Department of Health files.

REFERENCE # 3
PAGE 58 OF 116

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	D980508139

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	05 CITY / 06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

REFERENCE # 3
PAGE 59 OF 116

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D980535139

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ F. WASTE REPACKAGED — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE ________ 03 AGENCY ________
04 DESCRIPTION

REFERENCE # 3
PAGE 60 OF 116

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D980508139

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R BARRIER WALLS CONSTRUCTED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ S CAPPING COVERING 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ T BULK TANKAGE REPAIRED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ U GROUT CURTAIN CONSTRUCTED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ V BOTTOM SEALED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ W GAS CONTROL 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ X FIRE CONTROL 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Y LEACHATE TREATMENT 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Z AREA EVACUATED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 1 ACCESS TO SITE RESTRICTED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 2 POPULATION RELOCATED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 3 OTHER REMEDIAL ACTIVITIES 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D980500139

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION X YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

In 1972, legal action was taken against the Town of Dover by the Dutchess County Department of Health to restrain the Town from using the landfill due to violations of the State Health Laws and Sanitary Codes. In 1974 the Commissioner of Health found the Town of Dover Landfill to be operating in violation of Part 360 Regulations and demanded that plans be prepared and actions taken to upgrade those operations. "Operational Plan - Addendum Number One, Town of Dover Sanitary Landfill" was prepared by R. Friedman, P.E., in 1978 (refer to Appendix A1.1-2).

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Dutchess County Department of Health files (Appendix A1.1-2 and A1.1-4).

6. ASSESSMENT OF DATA ADEQUACY AND RECOMMENDATIONS

6.1 ADEQUACY OF DATA

There is no analytical data available to evaluate the status of potential contaminant transport routes, i.e., ground water, surface water, and air. Gross air quality was evaluated during the Phase I site inspection using a photoionization detector (HNU). HNU measurements obtained did not indicate any air quality problems.

6.2 RECOMMENDATIONS

Based on the lack of available data and the potential for ground-water and surface water contamination at the Dover Landfill, it is recommended that a Phase II study be conducted. The proposed study would include eight tasks: data collection/site reconnaissance, geophysical studies, preparation of final sampling plan, conducting the sampling program, environmental assessment, remedial cost estimate, and report preparation.

6.3 PHASE II WORK PLAN

In order to satisfy the aforementioned project purpose and to address the general inadequacies stated previously, EA would perform the following eight tasks. In addition, EA would develop a Health and Safety Plan for onsite field activities (currently assumed to require Level D protection) and a site-specific QA/QC Plan for all environmental measurement procedures. These two plans would be submitted to the NYSDEC for approval prior to initiating any field activities.

6.3.1 Task 1 - Mobilization and Site Reconnaissance

Project mobilization includes review of the Phase I report and updating the site data base with any new information made available since completion of the Phase I report. Based on that review, a draft scope of work for this site will be agreed to and a project schedule developed. At this time, a draft Quality Assurance/Quality Control (QA/QC) document will be prepared in accordance with the most up-to-date NYSDEC guidelines.

Site reconnaissance will be performed to examine general site access for Phase II studies. Site reconnaissance will familiarize key project personnel with the site, enable the project geologists to evaluate potential boring/well locations, and enable the project Health and Safety Officer to develop specific health and safety requirements for the field activities. Emergency, fire, and hospital services will be identified. Standard practice in site reconnaissance is an air survey with a HNU photoionization detector (HNU). The air survey would be performed around the site perimeter and throughout the site for safety purposes. Detection of releases to air during site reconnaissance may warrant further confirmation studies. Based on the Phase I study, it is expected that field activities will require only Level D health and safety protective measures.

6.3.2 Task 2 - Geophysics

Multidepth EM and earth resistivity surveying will be performed around the site perimeter to evaluate the potential presence of ground-water contaminant plumes and stratigraphic conditions. The number of stations and value of depth settings will be determined on the basis of field conditions. Results of the geophysics will be used to refine the specifications for locations, depths, and number of observation wells to be installed.

6.3.3 Task 3 - Preparation of Final Sampling Plan

All data collected during Tasks 1 and 2 will be evaluated to finalize sampling and boring/well locations. The final sampling plan will be developed and submitted to NYSDEC for approval. The plan will include final sampling locations; boring and well specifications; and reference pertinent portions of the QA/QC Plan. A final budget will be developed to complete the drilling and sampling program.

6.3.4 Task 4 - Test Borings and Observations Wells

Based upon currently available information, EA recommends the installation of six (three pairs) test borings/observations wells (three screened in the unconsolidated sediments and three completed in bedrock). This work would be performed under the fulltime supervision of a geologist. It is anticipated that the following drilling methods will be used: (1) hollow-stem auger in the unconsolidated sediments, and (2) air or water rotary in bedrock. Prior to the drilling of each boring/well, and at the completion of the last boring/well, the drilling equipment which comes in contact with subsurface materials will be steam-cleaned, as well as the split spoon sampler after obtaining each sample. Soil sampling will be performed using a split spoon sampler at approximately 5-ft intervals and at detected major stratigraphic changes. An HNU would be used to monitor the potential organic vapors emitted during drilling operations and from each soil sample. Samples of major soil/unconsolidated sediment units will be collected for grain-size analysis.

It is anticipated that the wells to be installed at this site will be completed in the unconsolidated sediments and in weathered or competent bedrock. Wells screened in the unconsolidated sediments will be completed approximately 10-15 ft below the ground-water table. Standard construction of such a well would include 10 ft of 4-in. diameter threaded-joint PVC screen and an appropriate length of PVC riser with a bottom plug cap, sand pack, bentonite seal, and protective surficial steel casing with a locking cap. Wells screened in bedrock will be completed approximately 10-15 ft into the saturated bedrock. Standard construction of such wells would be the same as for wells screened in the unconsolidated sediments, except that a grout seal will be placed from about 5 ft into bedrock to ground surface.

Upon completion and development of the wells by air surging/pumping, the vertical elevation of the upper rim of each well casing will be surveyed in order to aid in evaluation of the ground-water flow direction. Depending upon the yield of each Phase II well, a short-term, low-yield pumping test will be performed in each well.

For cost estimating purposes, it is assumed that:

a. The depth of each of the three wells screened in the unconsolidated sediments will be 15 ft below ground surface, and the depth of each of the three wells screened in bedrock will be 50 ft below ground surface.

b. The 6 wells will require 11 days to install, develop, and test.

c. All drill sites are accessible by truck-mounted drilling rigs as determined by the driller.

d. There are no excessive amounts of cobbles/boulders which would increase drilling time.

e. Steam cleaning of drilling/sampling equipment will be performed at each boring/well location. The fluids will be discharged to ground surface.

f. All drill cuttings, fluids, and development water will be left on, or discharged to, the ground surface in the immediate area of the activity.

g. That permission from appropriate land owners to drill borings/wells on their property will be a simple process (expedited by the NYSDEC, if necessary), so that delays during field operations are not incurred.

6.3.5 Task 5 - Sampling

All sampling and analysis will be conducted in accordance with the project QA/QC Plan. The analytical program for every water and sediment sample will include the 130 organic and 25 inorganic parameters listed in Statement of Work No. 784, New York State Department of Environmental Conservation Superfund and Contract Laboratory Protocol, January 1985. Also, all additional non-priority pollutant GC/MS major peaks will be identified and quantified. Major peaks will be considered as those whose area is 10 percent or greater than the calibrating standard(s). Based upon the currently available information, collection and analysis of the following numbers and types of samples is recommended:

- 6 Ground-water samples (one from each Phase II well).
- 2 Surface water samples.
- 1 Leachate sample.
- 3 Sediment samples (one from each surface water sample and leachate sample location).

6.3.6 Task 6 - Contamination Assessment

EA will evaluate the data obtained during the records search and field investigation, prepare final HRS scores and documentation forms, complete EPA Form 2070-13 and Part One of 2070-12 and summarize site history, site characteristics, available sampling and analysis data, and determine the adequacy of the existing data to confirm release, and if there is a population at risk.

6.3.7 Task 7 - Remedial Cost Estimate

EA will evaluate remedial alternatives for the site and develop a list of potential options given the information available on the nature and extent of contamination. Approximate costs estimates for the selected potential remedial options will be computed. This work is not intended to be, or a substitute for, a formal cost effectiveness analysis of potential remedial actions.

6.3.8 Task 8 - Final Phase II Report

In accordance with current (January 1985) NYSDEC guidelines, the Phase II report will include:

a. The results of the Phase II investigation, complete with boring logs, photos, and sketches developed as part of the Phase II field work.

b. Final HRS scores with detailed documentation.

c. Selected potential remedial alternatives and associated cost estimates.

In addition to the final Phase II report, the following raw data and resulting reduction would be provided to NYSDEC:

a. geophysical
b. well logs
c. all sampling forms and data
d. all analytical data

e. chain-of-custody forms

f. soil sampling forms and classifications

g. other collected information.

6.3.9 Task 9 - Project Management/Quality Assurance

A Project Manager will be responsible for the supervision, direction, and review of the project activities on a day-to-day basis. A Quality Assurance Officer will ensure that the QA/QC Program protocols are maintained and that the resultant analytical data are accurate.

6.4 PHASE II COST ESTIMATE

Based on the scope of work and assumptions described above, the estimated costs to complete the Phase II investigation of the Dover Landfill are as follows:

Consultant Costs (including labor, direct costs, fee)	$33,440
Drilling Contractor	22,325
Laboratory	24,000
Total	$79,765

APPENDIX A1.1-2

REFERENCE # 3
PAGE 70 OF 116

RECEIVED
DEC 7 1978
N.Y.S. D.E.C.
WHITE PLAINS OFFICE

Operational Plan
Addendum Number One

Town of Dover Sanitary Landfill
Dutchess County, New York

Prepared by:

Ronald B. Friedman, PE
4 Cider Mill Loop
Wappingers Falls, N.Y.
12590

December 5, 1978

REC'D
DEC 13 1978

LICENSED PROFESSIONAL ENGINEER
RONALD B. FRIEDMAN
47836
UNIVERSITY OF THE STATE OF NEW YORK

Town of Dover Sanitary Landfill
Dutchess County, N.Y.

1. Topography and Subsurface conditions

The area used for the landfill and the adjacent lands are either Carlisle Muck or of the Dover fine sandy loam soils grouping. The area used for the landfill encompasses the westerly section of a ridge that runs generally north/south and the easternly portion of a relatively flat area of Carlisle Muck. The ridge portion and area to the East are classified as Dover fine sandy loam in the ledgy, rolling phase, with the entrance way passing over the Dover fine sand loam in the ledgy hilly phase. The Dover fine sandy loam originates from firm glacial till, chiefly from crystalline limestone with a shallow to medium depth to bedrock.

On December 1, 1976, soil borings were taken on the land immediately to the West of the present site to determine whether expansion of the site in that direction was possible. The location of these borings are shown on the plans and described on the sheet included herein. From these tests, groundwater is determined as being at elevation 418, approximately 6 feet below the estimated lowest elevation of land used for the landfill or elevation 424.

The area to the East was the subject of subsurface soils investigation during the latter part of May, 1978 when a series of trenches were dug 100' apart starting from near the edge of the present landfill and extending downhill towards the West. Although the NYDEC had been contacted to observe these dug trenches, NYDEC declined the opportunity for first-hand observation of the subsoil conditions. These excavations revealed depths to rock of from as little as 1 foot to no rock observed at a 5' depth.

The landfill exists over two different soils types, the muck and fine sandy loam. Based on the USGS quadrangle, the survey map of the area, and visual observation of the lay of the land, it is estimated than about 15% of the landfill area exists over the fine sandy loam with the remaining 85% existing over original Carlisle Muck. This 15% of the landfill is then the sole area where portions may exist with less than 5' to rock.

The nature of the topography and grading of the landfill area is such that surface runoff from areas adjacent to the landfill do not flow over the landfill, and the only surface water flowing off of the landfill is the result of rain that has fallen only on the landfill area.

Since the original landform upon which the landfill was built is one side of a ridge leading to the flat area to the West, groundwater flows from the landfill primarily to the West. Any flow towards the North or South is but of short duration, as the land rises shortly beyound the limits of the landfill. Hence, any northerly or southerly groundwater flow is directed in a westerly direction.

The soils under the landfill are either fine sandy loam or peat overlying fine sand. These types of soils act as a natural filtering agent and chelating agent, thus aiding to reduce any groundwater contamination by leachate.

The total acreage of the leased site is about 23 acres, of which only about 5 acres have been or will be used for the sanitary landfill.

2. Solid Waste Quantities and Landfill Life

The annual quantity of solid wastes brought to the landfill is estimated at approximately 4500 tons/year or about 20 tons per operating day. Refuse is virtually 100% residential type wastes as no industrial wastes are permitted. Refuse from commercial sources are accepted, but this type of waste represents only a small fraction of the wastes received.

The life of the landfill has been re-estimated, based on the change in landform volume between the creation of the survey map in 1976 and the present elevations. Using this change in volume over a specific time period, it will take about another four (4) years to increase the elevations and grades to those shown on the plans.

3. Operational Characteristics

The landfill is open from 8 AM to 4:45 PM on Tuesday, Thursday, Friday, and Saturday. The landfill is about 1500' from CR #21, and a substantial gate controls access to the site. Signs exist stating the days and hours of operation near the gate and to which part of the landfill refuse is to be brought.

The site is such that all traffic must enter through the single access road and into the landfill site proper. As soon as a vehicle enters the landfill site itself, it is within the view of the operator. This landfill serves a small community, and therefore does not and has not required any formal traffic flow control due to the relatively small number of vehicles entering the site at any one time.

The operator directs the flow of refuse, separating any salvagable materials for later removal. Since the working face or area is small, the operator has sight observation of virtually all refuse deposited.

All cover material is brought into the site from two sources. The Town of Dover operates a soil mining operation adjacent to its recreation area. The soils mined vary from loam and topsoil to fine sand and gravel. When the exposed and mined strata is the sands and gravel, such soils are used by the Town for highway and public works projects. When the soils are the topsoil and loam, the soils are used for cover at the landfill. When the soils are the sand and gravel, cover material is obtained from the second source.

The second source is from a supplier that has been awarded a low bid contract. The soils so obtained are a sandy loam that received acceptance from Mr. J. Puchalak, PE of NYDEC.

The Town of Dover Highway Department has the responsibility for maintaining an adequate supply of cover material at the site, with the Superintendent of Highways directing the operations.

4. General Considerations

Included with this report is a portion of the USGS map showing the landfill site with the surrounding area. Although the USGS map was photorevised in 1971, it is accurate for this purpose as no residences are known to be any closer to the landfill site than those shown thereon. This map shows the ridge of Dover fine sandy loam jutting into the area of Carlisle Muck, with the Swamp River lying to the East and the Burton Brook lying to the West. The landfill site ridge serves as a drainage basin divide with the site being on the extreme uphill side of the westerly side.

A wind rose that is accurate for the Dover area is not available, the nearest data being availble at the Dutchess County Airport, some 20 miles away.

Approximately 500 feet to the West, an area that has been identified as Freshwater Wetlands by NYDEC personnel exists. Towards the East, a wet area, possibly a Freshwater Wetlands, is found about 25 feet from the edge of where the landfill exists. However, this area is no longer being used, having already reached the design elevations. The only activity contemplated with 75 to 100' of this wet area may be the possible addition of additional cover material as final cover.

5. Fill Progression

Drawings 2 and 3 provide provide cross sections in the East-West direction every 100' for the operator to use as a guide in attaining design elevations and grades.

Refuse is to be deposited in small compact daily lifts, starting in the northwesterly portion of the site and progressing in a clockwise direction. Each area should be built up to about 10' in height by constructing multiple daily lifts of about 5' adjacent to each other until a 50-75 foot wide swath has been created. When the subject area has been raised by the 10', the adjacent 50 to 75' area is then used. In this manner, the entire site will be raised in increments of about 10', easing the determinations of the operator. The operator will thus be creating nearly level planes or slices horizontally through the site. Each finished grade, whether daily or intermediate, shall be graded towards the edge of the landfill as indicated in order to promote runoff of rainwater rather than percolation. The edges of the landfill shall have final slopes of 1:3 to 1:4 as possible and convenient.

As the total elevation of the site increases, the access roadway must be curved towards the central portion and elevated correspondingly, as to follow the final contours of the land as shown on the drawings.

RONALD B. FRIEDMAN, P.E.
Consulting Engineer
4 Cider Mill Loop
WAPPINGERS FALLS, NY 12590
(914) 297-5679

JOB Town of Dover Landfill 5;
SHEET NO ______ OF ______
CALCULATED BY RBFriedman DATE ______
CHECKED BY ______
SCALE ______

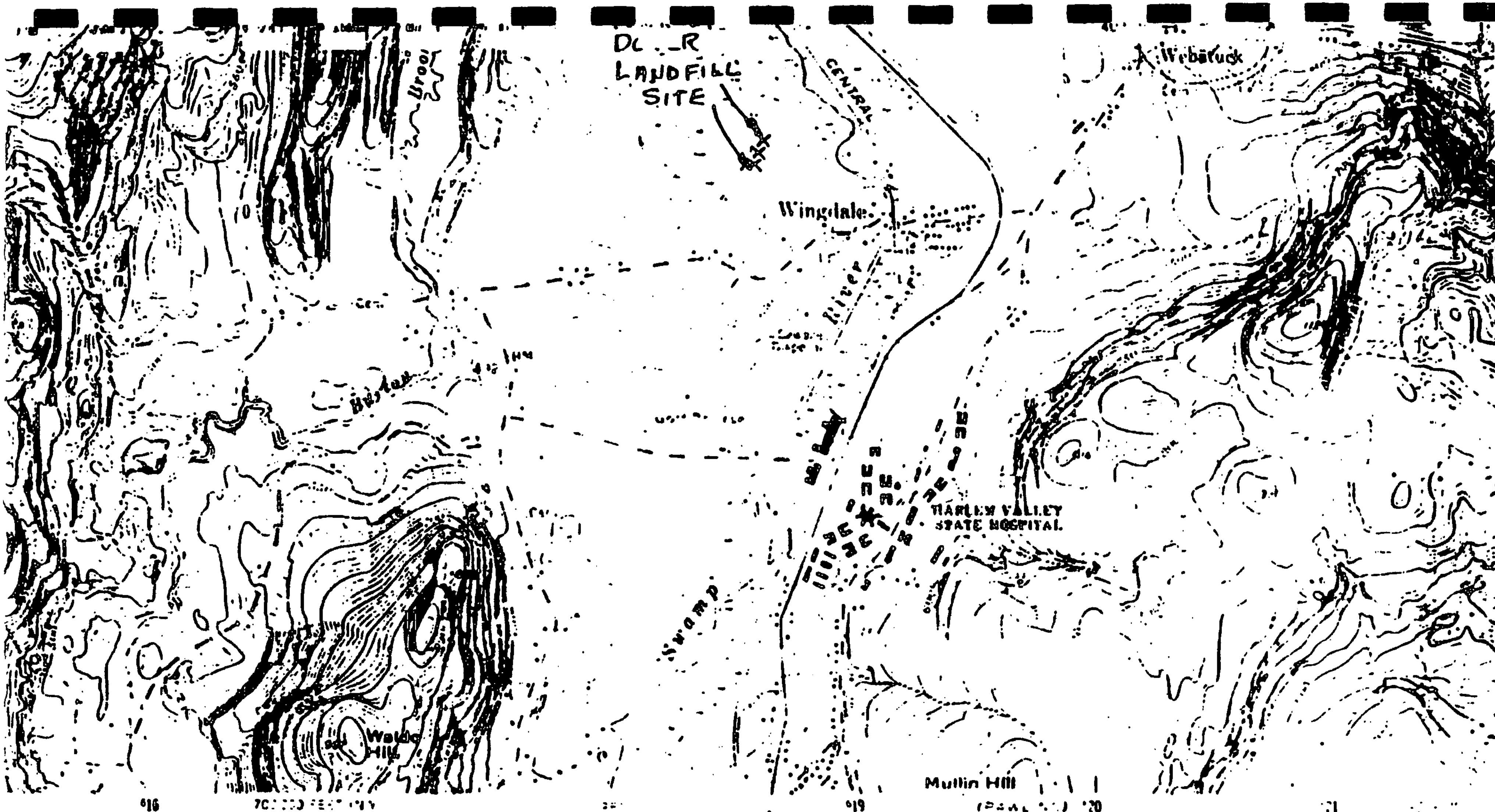
Deep Hole Testing* 12-1-76
GROUND SURFACE ELEVATION - 422

#1 0-4' black peat
4-7½ to 8' fine sand with traces of clay
seepage @ 1'
GW @ 4' - Elev 418

#2 0-3' black peat
3'-6' fine sand with traces of clay
seepage @ 1'
G.W @ 4'+ Elev 418

#3 0-4' black peat
4'- fine sand
seepage @ 1'
G.W @ 4'+ Elev 418

* Holes dug by D.C.H.D Mosquito Control Section
" observed by David T. Ruff, Assoc. Sanitarian, D.C.H.D



blished by the Geological Surve.

compiled from aerial photographs
planetable surveys 1944

North American datum
New York coordinate system,
ordinate system
erse Mercator grid ticks.

DOVER PLAINS, NY
QUADRANGLE

REFERENCE # 2
PAGE 1 OF 116

FOR SALE BY U.S. GEOLOGICAL SURVEY, WASHINGTON D.C.

TOWN OF DOVER

Please explain!
NR Link
(92)

APPENDIX A1.1-3

Joseph Bercani
Pleasant Ridge Road
Wingdale, N.Y.
[illegible], 197[illegible]

[illegible] # 3
[illegible] 76 OF 116

Mr. Richard Pelkey, Supervisor
Town of Dover

Dear Sir:

Four years ago when I purchased my home on Pleasant Ridge Road, Wingdale, (a rough sketch is furnished herewith for your reference), it was generally anticipated in the community that the Dover Disposal Area would be closed upon the opening of the New Dump Site at Cricket Hill.

The Crickett Hill Site has now been in operation for quite some time, however the Dover Site continues to be open each Sunday, Monday, and Tuesday. I assume therefore that the Town of Dover needs and must operate two Dumps. Since this is the only Town in the County with two Dump Sites, it obviously follows that operation costs involved are twice that of any other Town. An evaluation of the basis providing justification for this excessive expenditure of Taxpayer s funds may be in order.

In the event that findings of this evaluation support a determination for the continuing operation of two Dumps, then surely the people must bear the costs for adequate manpower and equipment to provide proper maintenance at the Dover Site and its access road for the protection of my family, guests and neighbors against the sanitary and safety hazards that now exist.

In the past four years I have reported these conditions several times, however measures taken by the Responsible Authority have always been less than adequate to effect correction. Since the location of my home is such that my family and guests, as well as my neighbors, are direct victims of adverse affects emanating from these deplorable conditions, I am once more requesting that action be taken to effect some permanent corrective measures.

The Dump Site, which is in somewhat better condition now than it was four years ago, is still far from sanitary, with exposed garbage in evidence at all times, generating stench and breeding ~~[illegible]~~ vermin endangering the health of persons in close proximity.

The private road leading to the Dump Site is at all times strewn with garbage falling from vehicles enroute to the Site, adding to the unsanitary conditions reported above. This road, which is depicted on the accompanying sketch by the shaded area, is now in such ill repair that it is impossible to enjoy my home's immediate surroundings without fear of bodily injury from the flying stones being deflected by the passing vehicles, not to mention breathing the clouds of dust which are ever present.

At the location marked A on the sketch, drainage of the road is such that during every rain fall the runoff is directed to my lawns, flooding same, and eventually finding its way into my basement.

The utter disregard for the protection of our well being is made evident by the fact that the Dover Site, located in the midst of a residential area, is open on Sunday precluding any possibility for the residents to enjoy any serenity on the Sabbath, while the Cricket Hill Site, an ideal location for Sunday operation, remains closed.

In conclusion, be assured that every effort expended by the local authority toward the resolution of the foregoing problems will be greatly appreciated. However be advised, that this writer will not hesitate to present every instance of non compliance with Sanitary and Safety Codes to higher levels of authority for assistance to effect correction.

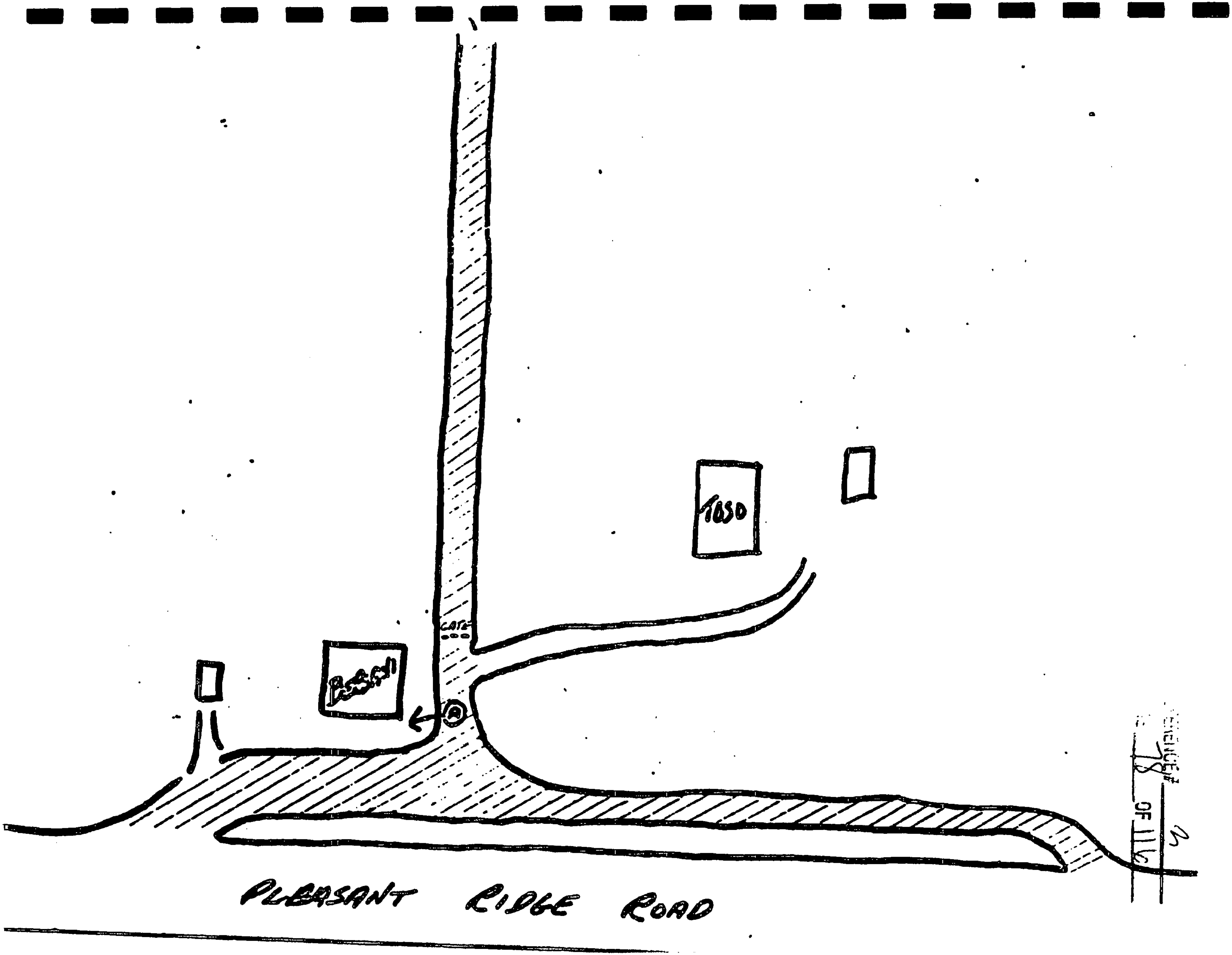
Yours truly

Joseph Bersani

JB:ed

Copies to:
1. Elliott McEldowney, Editor
Hudson Valley Times, Amenia, N.Y.

2. Dr. Vernon B. Link, Commissioner
Dept. of Health, Dutchess County
Poughkeepsie, N.Y.



REFERENCE # 78

2 OF 116

APPENDIX A1.1-4
REFERENCE # 3
PAGE 79 OF 116

Mr. Richard Pelkey, Supervisor
Town of Dover
Town Hall
Dover Plains, NY 12522

Re: Town of Dover Refuse Disposal Site
(Wingdale site)

AN ORDER BY THE COMMISSIONER OF HEALTH OF DUTCHESS COUNTY

Based upon facts and findings submitted to me, it has been determined that the above noted facility is being operated in contravention to Part 19 of the New York State Sanitary Code. Specifically, (1) Refuse is being deposited into surface waters in violation of Part 19.2 (a)(2); (2) The dumping of refuse is not confined to an area which can be effectively maintained and operated in violation of Part 19.2 (a)(3); (3) Refuse is not being compacted and covered daily with six (6) inches of cover material in violation of Part 19.2 (a)(4); (4) Two feet of cover material has not been placed after the final deposit of refuse in violation of Part 19.2 (a)(4); (5) Effective means are not taken to control rodents and insects in violation of Part 19.2 (a)(5); (6) Fencing or other suitable means are not used to control windblown papers in violation of Part 19.2 (a)(6).

Based on the foregoing, you are hereby Ordered:

I. THAT within ten (10) days from receipt of this Order all refuse must be compacted and covered as required by Part 19.

II. THAT within ten (10) days from receipt of this Order effective means must be taken to control rodents and insects.

III. THAT within ten (10) days from receipt of this Order effective means must be taken to control windblown papers.

IV. THAT within ten (10) days from receipt of this Order there must be placed a minimum of two feet of cover material over completed areas.

V. THAT upon receipt of this Order all further deposition of refuse into surface waters must be discontinued.

VI. THAT within ten (10) days from receipt of this Order, effective means be taken to prevent pollution of surface waters from that refuse already deposited into same.

VII. THAT within ten (10) days from receipt of this Order refuse shall be dumped and confined to an easily manageable area.

VIII. THAT upon failure to abide by items I, II, III, IV, V, VI, VII, all operations shall cease and desist at said disposal site and its use discontinued for the disposal of refuse.

Please Be Advised that failure to abide by this Order could result in the Commissioner assessing penalties in the maximum of one hundred (100.00) dollars for violation of the Order and in the maximum of fifty (50.00) dollars for each violation of Part 19.

The penalties may be applied for each day you are in violation.

VERNON B. LINK, M.D.
Commissioner of Health
County of Dutchess

DATED: April 11, 1972
Poughkeepsie, New York

vbl/dtr/sjd
cc: Town of Dover Town Board

APPENDIX A1.1-5

[illegible] # 3
[illegible] 81 OF 116

Mr. Joseph Puchalik, WPRO

D. Ruff

Town of Dover Refuse Disposal Site - Wingdale

November 14, 1973

Attached is a case summary report relative to the above. The Town Supervisor is Richard Pelky. The site is leased by the Town and owned by Leo and Helen Mostachetti, Wingdale, New York.

The representatives of this Department involved in this matter are Ellis Adams, Waste Management Specialist; David Ruff, Associate Sanitarian; Jack Hill, Acting Director of Environmental Health Services and Stephen Redmond, M.D., Commissioner of Health.

As you are aware, this Department is presently pursuing enforcement proceedings through the Supreme Court.

Pictures of operations available on request.

DTR/fbm
Att.

Joe, Also attached are inspection reports from 10/17/73, 11/13/73 & 11/14/73 which are not included in case summary report.
DR

CASE SUMMARY REPORT

Town of Dover Refuse Disposal (Wingdale)

3/5/73 - Inspection by E. Adams indicates the following violations:

13.2(1) Open burning of wood and related material in a 55-gallon container.

19.2(4) Refuse not covered daily with at least 6 inches of cover material. Completed areas not properly covered. Refuse not properly compacted.

19.2(5) Effective means not taken to control flies, rodents, insects and vermin.

19.2(7) Salvaging of refuse creating a problem.

3/8/73 - Inspection by E. Adams indicates the following violations:

19.2(4) Refuse not covered daily with at least 6 inches of cover material. Completed areas not properly covered. Refuse not properly compacted.

19.2(5) Effective means not taken to control flies, rodents, insects and vermin.

19.2(7) Salvaging of refuse creating a problem.

Site closed at time of inspection.

3/28/73 - Inspection by E. Adams indicates following violations:

19.2(4) Refuse not covered daily with at least 6 inches of cover material. Completed areas not properly covered. Refuse not properly compacted.

19.2(7) Salvaging of refuse creating a problem.

Site closed at time of inspection.

4/2/73 - Inspection by E. Adams indicates the following violations:

19.2(4) Refuse not covered daily with at least 6 inches of cover material. Completed areas not properly covered. Refuse not properly spread and compacted.

19.2(7) Salvaging of refuse creating a problem.

4/17/73 - E. Adams and J. Hill had meeting with Town Supervisor and three members of Town Board to discuss operation and violations. There was an agreement that site would be brought into compliance by May 21, 1973.

4/26/73 - Inspection by E. Adams indicates the following violations:

19.2(1) Open burning of refuse.

19.2(4) Refuse not covered daily with at least 6 inches of cover material. Completed areas not properly covered. Refuse not properly compacted.

19.2(7) Salvage of refuse creating a problem.

5/18/73 - Inspection by E. Adams indicates the following violations:

19.2(4) Refuse not covered daily with at least 6 inches of cover material. Completed areas not properly covered. Refuse not properly compacted.

19.2(7) Salvaging of refuse creating a problem.

Site closed at time of inspection.

6/6/73 - Inspection by E. Adams indicates the following violations:

19.2(4) Refuse not covered daily with at least 6 inches of cover material. Completed areas not properly covered. Refuse not properly compacted.

19.2(7) Salvaging of refuse creating a problem.

Site closed at time of inspection.

6/12/73 - Inspection by E. Adams indicates following violations:

19.2(4) Refuse not covered daily with at least 6 inches of cover material. Completed areas not properly covered. Refuse not properly covered. Refuse not properly compacted.

19.2(7) S-lvaging of refuse creating a problem.

A copy of all inspection reports was sent to the Town Supervisor & Town Board.

6/15/73 - D. Ruff verified with Town Clerk that Leo and Helen Mostachetti, Wingdale, New York, are owners of property.

6/26/73 - Inspection by E. Adams and D. Ruff indicates the following violations:

19.2(4) Completed areas not properly compacted and covered with 2 feet of cover material. Refuse not covered and compacted daily.

19.2(5) Means not taken to control flies, rodents and insects.

6/27/73 - Inspection by E. Adams indicates the following violations:

19.2(1) Presence of charred material indicates open burning.

19.2(3) Dumping permitted without proper control and supervision.

19.2(4) Refuse not properly compacted and covered daily. Completed areas not properly compacted and covered with 2 feet of cover material.

19.2(5) Effective means not taken to control flies, rodents and insects.

19.2(7) Salvaging of refuse creating a problem.

19.2(8) Site expansion into low swampy area without approval.

Site closed at time of inspection.

7/11/73 - Inspection by E. Adams indicates following violations:

19.2(3) Dumping of refuse not confined to an area which can be effectively maintained and operated.

19.2(4) Refuse not properly compacted and covered daily. Completed areas not properly compacted and covered.

1912(5) Effective means not taken to control flies, rodents and insects.

19.2(7) Salvaging of refuse creating a problem.

19.2(8) Refuse disposal area being expanded into an area not papproved for this purpose. Area is swampy.

Site was closed at time of inspection.

7/18/73 - Letter of complaint from Joseph Berrani relative to operation and maintenance.

7/25/73 - Inspection by E. Adams indicates the following violations:

360.2(1) Evidence of on site burning.

360.2(2) Refuse being deposited into surface water.

360.2(3) Refuse not confined to an area which can be effectively operated and maintained. No supervision or fencing.

360.2(4) Refuse not compacted and covered daily. Refuse protruding through completed areas.

360.2(5) Effective means not taken to control flies, rodents and other insects.

Site normally closed but was open on 7/30/73, a copy of inspection report sent to Town Supervisor and Board.

7/30/73 - Inspection by E. Adams indictes the following violations:

360.2(1) Evidence of on site burning.

360.2(2) Refuse deposited into surface water.

360.2(3) Refuse not confined to an area which can be effectively operated and maintained.

360.2(4) Refuse not compacted and covered daily. Refuse protruding through completed areas.

360.2(5) Effective means not taken to control rodents, flies and other insects.

360.2(7) Salvaging of refuse creating a nuisance.

On 8/1/73 a copy of inspection report sent to Town Supervisor and Town Board.

8/16/73 - Inspection by E. Adams indicates following violations:

360.2(3) Refuse not confined to an area which can be effectively operated and maintained.

360.2(4) Refuse not compacted and covered daily. Refuse protruding through completed areas.

360.2(5) Effective means not taken to control rodents, flies and other insects.

On 9/19/73 copy of inspection report sent to Town Supervisor & Board.

8/22/73 - Inspection by D. Ruff and accompanied by Dr. Redmond indicates following violations:

360.2(1) Evidence of on site burning.

360.2(3) Refuse not confined to an area which can be effectively operated and maintained.

360.2(4) Refuse not compacted and covered daily. Completed areas not properly covered and graded.

360.2(5) Effective means not taken to control rodents, flies and other insects.

Site closed at time of inspection. On 8/28/73 a copy of inspection report sent to Town Board and Supervisor.

9/5/73 - Inspection by D. Ruff & E. Adams and conference with Supervisor Pelkey and Highway Superintendent Anderson. See attached memorandums on conference. Violations were as follows:

360.2(4) Refuse not properly compacted and covered daily. Refuse protruding through completed areas.

360.2(5) Effective means not taken to control rodents, flies and other insects.

On 9/6/73 copy of inspection report sent to Town Supervisor & Town Board.

9/12/73 - Inspection by E. Adams indicates following violations:

360.2(2) - Refuse deposited into low swampy area.

360.2(3) - Refuse not confined to an area which can be effectively operated and maintained. No supervision or fencing.

360.2(4) - Refuse not properly compacted and covered. Refuse protruding through completed areas. Improper slopes on completed areas.

360.2(7) - Salvaging of refuse creating a nuisance.

On September 24, 1973 copy of inspection report sent to Town Supervisor & Board.

9/19/73 - Inspection by E. Adams indicates following violations:

360.2(1) Evidence of on site burning.

360.2(3) Refuse not confined to an area which can be effectively operated and maintained.

360.2(4) Refuse not properly compacted and covered daily. Refuse protruding through completed areas.

360.2(5) Effective means not taken to control rodents, flies and other insects.

360.2(7) Salvaging of refuse creating a nuisance.

On 10/1/73 copy of inspection report sent to Town Supervisor & Board.

10/2/73 - Inspection by E. Adams indicates following violations:

360.2(3) - Refuse not confined to an area which can be effectively operated and maintained.

360.2(4) - Refuse not properly compacted and covered daily. Refuse protruding through completed areas. Completed areas not properly finished.

360.2(5) Effective means not taken to control rodents, flies and other insects.

360.2(7) Salvaging of refuse creating a nuisance.

On 10/12/73 copy of inspection report sent to Town Supervisor & Board.

10/11/73 - Inspection by E. Adams indicates the following violations:

360.2(1) Burning at time of inspection and evidence of on site burning.

360.2(3) Refuse not confined to an area which can be effectively operated and maintained.

360.2(4) Refuse not properly compacted and covered daily. Refuse protruding through completed areas. Improper slopes on completed areas.

360.2(5) Effective means not taken to control rodents, flies and other insects.

360.2(7) Salvaging of refuse creating a nuisance.

In spection report in process of being sent to Town Supervisor & Board.

11/8/73 - Inspection by E. Adams indicates the following violations:

360.2(3) Refuse is not confined to an area which can be effectively operated and maintained.

360.2(4) Refuse is not properly compacted and covered daily. Refuse protruding through completed areas.

77

360.2(5) Effective means are not taken to control rodents, flies and other insects.

360.2(6) Blowing paper is a problem.

360.2(7) Salvaging of refuse is creating a nuisance.

Copy of inspection report in process of being sent to Town Supervisor & Town Board.

APPENDIX A1.1-6

REFERENCE # 3
88 OF 116

Dutchess County
Department of Health

22 MARKET STREET
POUGHKEEPSIE, N. Y. 12601

Mr. Richard Pelkey, Supervisor
Town of Dover Town Board
Town Hall, Town of Dover
Wingdale, New York 12594

Re: Town of Dover Refuse Disposal Site
V. Wingdale

<u>An Order By The Commissioner of Health of Dutchess County</u>

Based upon facts and findings by representatives of this Department submitted to and reviewed by me it has been determined that the Town of Dover Refuse Disposal Site, Wingdale. is and has been operated and maintained in non-conformance with Part 360 Title 6. NYCRR, the New York State Conservation Law and the Public Health Law of the State of New York and in a manner which can cause a public health nuisance and hazard and be detrimental to the environment.

Specifically, the disposal site has been expanded into areas which have not been approved for the disposal of refuse, dumping of refuse has not been confined to an area which can be effectively maintained and operated and controlled effectively by supervision, signs, fencing or equally effective means, the refuse has not been covered and compacted properly and daily and completed areas have not been properly compacted and covered with at least two feet of suitable cover material and in a manner to allow for effective surface water drainage, and effective means have not been taken to control flies, rodents, insects and other vermin.

Based upon the foregoing and according to the Part 360 NYCRR, the Conservation Law of the State of New York and the Public Health Law of the State of New York and the power invested to me by same, you are hereby Ordered:

I. THAT on or before April 12, 1974 to submit to me for review and approval engineering plans, reports and specifications showing the suitability of the present site for refuse disposal and how the proposed method of operation will conform to all applicable laws and rules and regulations and procedures for proper management and operation of a sanitary landfill.

II. THAT on or before March 22, 1974 to properly compact all existing exposed refuse and cover in a satisfactory manner.

III. THAT on or before March 29, 1974 to properly cover, grade and seed all completed areas. Covering is to be done with an acceptable cover material other than the cover that is presently used.

IV. THAT immediately upon receipt of this order to confine all refuse dumping to an area which can be effectively maintained and operated and to properly compact and cover all refuse daily.

V. THAT there is to be no further expansion of the disposal site until approval has been granted to do so by this Department and the New York State Department of Environmental Conservation.

VI. THAT immediately upon receipt of this Order to take effective means to control and eliminate any rodent, insect and vermin problems.

Please Be Advised that after review by this Department of said engineering plans, reports and specifications, you will be so notified of their approval or disapproval.

Be Further Advised that upon your failure to abide by this Order, the Commissioner of Health according to the Public Health Law of the State of New York may assess penalties against you in the maximum of five hundred dollars (500.00) for violation of the Order, the penalties being applied for each day you are in violation and may enter upon the premises to which said Order relates and suppress or remove the nuisances or other matters. The expense of suppression or removal of a nuisance or conditions detrimental to health shall be paid by the owner or occupant of the premises, or by the person who caused or maintained such nuisance or other matters.

Any variance request to the above noted schedule must be substantiated in writing.

Dated: March 5, 1974

Poughkeepsie, N.Y.

Stephen R. Redmond, M.D.
Commissioner of Health
County of Dutchess

--20-2 (8/77) NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

REFERENCE # 3

PAGE 90 OF 116

FACILITY NO. 0547

EXPIRATION DATE March 31, 1982

APPENDIX A1.1

Under the Environmental Conservation Law, Article 27, Title 7, Part 360

- [ ] CONSTRUCTION
- [X] OPERATION
- [X] INITIAL ISSUE
- [ ] RENEWAL
- [ ] REISSUE
- [ ] MODIFICATION

ISSUED TO	ADDRESS OF	TELEPHONE NO.
Town of Dover	Pleasant Ridge Road Wingdale, N.Y. 12594	914-832-6839

LOCATION OF PROJECT Town	County	Environmental Conservation Regional Office
Dover	Dutchess	202 Mamaroneck Ave Region #3 - White Plains, NY 10601

DESCRIPTION OF PROJECT	ON-SITE SUPERVISOR
Sanitary Landfill	George Medcalf

GENERAL CONDITIONS

1. The permittee shall file in the office of the Environmental Conservation Region specified above, a notice on intention to commence work at least 48 hours in advance of the time of commencement and shall also notify said office promptly in writing of the completion of the work.

2. The permitted work shall be subject to inspection by an authorized representative of the Department of Environmental Conservation who may order the work suspended if the public interest so requires.

3. As a condition of the issuance of this permit, the applicant has accepted expressly, by the execution of the application, the full legal responsibility for all damages, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and has agreed to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from the said project.

4. All work carried out under this permit shall conform to the approved plans and specifications. Any amendments must be approved by the Department of Environmental Conservation prior to their implementation.

5. The permittee is responsible for obtaining any other permits, approvals, easements and rights-of-way which may be required for this project.

6. By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with Part 360 and the special conditions. Any variances granted by the Department of Environmental Conservation to Part 360 must be in writing and attached hereto.

SPECIAL CONDITIONS

1. The Town of Dover Landfill is to accept only residential and commercial refuse. The landfill will not accept abandoned cars, liquid or chemical wastes, sludges, pathogenic, explosive or other types of hazardous wastes.

2. Sand and gravel is not to be used as cover material.

3. No further horizontal expansion beyond the present boundaries of the landfill is to take place.

4. Slopes are to be maintained at a maximum grade of 1 vertical to 3 horizontal.

5. An operating plan should be formulated within six (6) months to conform with the approved plans and specifications. The plan should include on-site guidance and grade stakes to assist the operator.

6. During the life of the landfill, an annual report shall be submitted to the New York State Department of Environmental Conservation, Region 3 Office, including as a minimum, volume of waste processed, remaining capacity and information to demonstrate that the landfill is operating in conformance with approved plans and specifications.

7. A variance from the following sections of Part 360, 6NYCRR is granted:
   (a) Section 360.8(a)(12): Adequately heated and lighted shelters for operating personnel shall be provided for the facility. A safe drinking water supply, sanitary toilet facilities, and telephone or radio communication shall be provided.

   (b) Section 360.8(a)(14): Shelter for mobile equipment shall be provided for routine maintenance and repair.

ISSUE DATE	ISSUING OFFICER	SIGNATURE
		X

SPECIAL CONDITIONS

8. No later than six (6) months prior to completion of the landfill site, a detailed closure plan shall be submitted to the New York State Dept. of Environmental Conservation, Region 3 Office.

May 14, 1979

Mr. Augustine O'Neill, Supervisor
Town of Dover
Pleasant Ridge Road
Wingdale, New York 12594

Re: Town of Dover Solid Waste
Management Facility

Dear Supervisor O'Neill:

This will confirm the results of our meeting and joint inspection of your landfill on May 11, 1979. The following items refer to items on the attached Facility Inspection Report:

(1) Leachate stains were visible at various points around the periphery of the site. It was agreed that these areas will be packed with impervious material and seeded to prevent the persistence of this problem.

(7), (11), (23), (24), (25), (27), (28): These items all relate to the fact that the equipment on-site has been down for repair, and the rubber-tired front end loader used in the interior is not adequate. In the future, you are strongly urged to rent an adequate replacement bulldozer for compaction and covering.

(8) Refuse protrudes at various places on the site. It was agreed that the operator will dress-up these areas when the new cover material arrives on site.

(10) Be advised that, as discussed, the first sample ;checked at the Polumbo gravel bank and the second sample checked at the Vincent Farm are acceptable to replace the unacceptable sand presently used for cover. The sample at Vincent Farm is preferable.

Your prompt attention in correcting the enumerated problems is appreciated. Should you have any questions, please call the writer at 485 - 9707.

Very truly yours,
Jack R. Hill,
Public Health Administrator

by:
Robert J. Vrana,
Asst. Public Health Engr.
Div. of Environ. Health Services

jrh/rjv/lb

...ceptable
...cent Farm

APPENDIX A1.1-9

REFERENCE # 3
PAGE 94 OF 116

2.19

April 4, 1980

Mr. Augustine O'Neill, Supervisor
Town of Dover
Pleasant Ridge Road
Wingdale, N.Y. 12594

Re: Town of Dover
Solid Waste Management Facility

Dear Mr. O'Neill:

Attached is a copy of a Facility Inspection Report for an inspection of your landfill conducted April 4, 1980. As indicated in this report and the previous inspection report of March 27, 1980, very significant operational problems have developed, the most serious being the quality of cover material and the subsequent problems caused by this material relative to proper daily cover.

In addition to these listed violations of Part 360, "Solid Waste Management Facilities" your attention is directed to Special Conditions #2, #4 and #5 of your Permit to Operate, issued April 20, 1979. It is apparent from the two referenced inspections that the Town of Dover is in direct violation of these special conditions, conditions which the Town had agreed to prior to issuance of this permit.

Accordingly, it is requested that a meeting be held at the site among yourself, the site operator, Ellis Adams and the writer, both of this Department, and the site engineer Ronald Friedman. Please call the writer once a mutually convenient date for the Town and Mr. Friedman have been established.

Very truly yours,
Jack R. Hill,
Public Health Administrator

by:
Robert J. Vrana,
Asst. Public Health Engr.
Div. of Environ. Health Services

jrh/rjv/lb
cc: E. Adams

2c

REFERENCE # 3
PAGE 95 OF 116

47-15-1 (11/79)

REGION III

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID WASTE MANAGEMENT
FACILITY INSPECTION REPORT

LEACHATE
1. Leachate is entering surface water.
2. Leachate is known to be contravening groundwater standards.
3. Refuse is being placed into water.

BURNING
4. Refuse is burning without permit or not under permit conditions. [X]
5. There is evidence of unapproved previous burning.

COVER
6. Previous days refuse is not covered. [X]
7. Refuse is protruding through daily, intermediate or final cover. [X]
8. Intermediate or final cover is not in place or improperly applied.

GRADING
9. Depressions, ponding, cracked cover, ~~or slopes steeper than 3 to 1 exist.~~ [X]
10. Vegetative cover is missing or inadequate ~~on completed areas.~~
11. Soil erosion or other drainage problems exist.

SEPARATION DISTANCES
12. Refuse is closer than 50 feet to site boundaries.
13. Refuse is being placed less than 5 feet above groundwater or bedrock.
14. Refuse is being placed too close to surface water.

NUISANCE CONDITIONS
15. Odors are detectable off site.
16. Blowing dust or dirt is a nuisance.
17. Papers ~~are uncontrolled~~ or are blowing off-site. [X]
18. Methane ~~gas is known~~ to be leaving the site.
19. Noise is a nuisance off-site.

OPERATION CONTROL
20. Operation Permit conditions are being violated. (List violations) [X]
21. Refuse is not sufficiently confined or controlled.
22. Refuse is spread in layers thicker than 2 feet.
23. Refuse is not compacted or compacted insufficiently.
24. The working face height is greater than 10 feet.
25. Equipment on the site is not adequate for proper operation.

SAFETY AND HEALTH
26. Salvaging is uncontrolled or is creating a nuisance.
27. Rodents, insects, birds, or other vectors are not controlled.
28. Unsafe conditions or equipment exist. (List items)

ACCESS CONTROL
29. Access to the site is improper, unsafe, or inadequately controlled.
30. The site is open without an attendant.
31. Information about the site is not posted. (e.g., hours of operation)
32. Access to the operating area is poor or unsafe.

OTHER
33. Uncontrolled leachate is visible on, or near the site.
34. The quality of cover material is inadequate. [X]
35. The working face is steeper than a 3 to 1 slope.
36. Monitoring wells are not operative.
37. Unapproved wastes have been deposited since last inspection.
38. Operator is unfamiliar with site boundaries, operation plan or permit conditions. [X]

MARK BOXES WITH "X" ONLY IF ANSWER IS YES
INSPECTORS COPY

1 TRANS. TYPE (1 Delete, 2 Add, 3 Change)	2 FACILITY NO. 7	8 DATE 13	14 TIME 17	20 CARD TYPE 21	22 INSPECTOR'S NAME 36	37	38 REMARKS 72
	14508	8/04/80	1030	1	VRANA		

FACILITY NAME: DOVER LANDFILL

LOCATION: T. DOVER

PERSONS INTERVIEWED & TITLES

ED FINLEY - SITE OPERATOR

SITE SKETCH/COMMENTS (additional sheets attached ☐ YES ☐ NO)

(SEE ATTACHED COVER LETTER)

#4 - BURNING PILE CONTAINS METAL RESIDUE. TOWN MUST APPLY FOR BURNING PERMIT AND WILL COVER BRUSH, WOOD & TREE TRIMMINGS

#6 & 7 - REFUSE MUST BE COMPACTED AND COVERED WITH A MINIMUM OF 6 INCHES OF SUITABLE COVER MATERIAL AT THE END OF EACH WORKING DAY.

#9 - SOME SIDESLOPES STEEPER THAN 1 VERTICAL ON 3 HORIZONTAL

#17 - BLOWN PAPERS UNCONTROLLED - NEEDS POLICING

#34 - COVER MATERIAL IS SAND - NOT ACCEPTABLE.

#38 - OPERATOR UNFAMILIAR WITH PLANS OR INSPECTION REPORTS.

#20 - VIOLATION OF SPECIAL CONDITIONS #2, 4, AND 5.

Robert J. Vrana
INSPECTOR'S SIGNATURE

COUNTY OF DUTCHESS

POUGHKEEPSIE, NEW YORK 12601

DATE ISSUED 1/31/80

VOUCHER NO. 3

CLAIMED BY.

CAMO POLLUTION CONTROL, INC.
25 Post Road
Poughkeepsie, New York 12602

DUTCHESS COUNTY

REFERENCE # 3

96 OF 116

SEND CLAIM FORM TO ABOVE

COMPTROLLER	DESCRIPTION		AMO
RECEIVED FOR AUDIT APPROP OK ___ DEPT CERT OK ___ T OK ___ VENDOR CERT OK ___ DEPARTMENTAL CERTIFICATION OF GOODS OR SERVICES RECEIVED DATE: BID NO / CONTRACT NO. APPROVING AUTHORITY	DOVER PLAINS SAMPLES The following charge is for the laboratory analysis of three (3) samples received on December 17, 1980 and analyzed for Chloride, pH, TOC, Spec. Conductance, Oil/Grease, Phenol, PCB 1248, 1254, 1260, Iron, Chrome, Chrome + 6, Lead, Mercury, Cadmium. This report was written ~~on~~ January 31, 1980, and was signed by John P. Dullaghan.		$612.90

RETURN THIS COPY WITH CERTIFICATE COMPLETED

TOTAL

John P. Dullaghan says that he is the Laboratory Director (President or other officer or member) of the CAMO POLLUTION CONTROL, INC. (name of corporation or firm of) the claimant mentioned above is duly authorized to execute this proof of claim and hereby certifies to the County of Dutchess, its officers and representatives that the foregoing is a correct and true statement of this claim against the County of Dutchess and that the services charged herein have been made or rendered and that the articles charged therein have been furnished and delivered and that no part thereof has been paid or satisfied and has not been assigned or pledged and the full amount thereof is due the claimant.
Claimant further certifies that neither himself, nor any of his employees, having an interest, direct or indirect in this claim, are officers or employees of the County of Dutchess. Claimant, if an employee or officer of the County of Dutchess, certifies that this claim is only for compensation and/or necessary expenses incurred in the performance of duties. This certification is in pursuance with a provision of the County Law and Resolutions No. 47—1952 and No. 89—1956, adopted by the Dutchess County Board of Supervisors.

Dated January 31, 1980 — John P. Dullaghan (Signature of Claimant)

EXEMPT FROM FEDERAL/STATE AND LOCAL SALES TAX

DISCOUNTS & ADJUSTMENTS ___

AUDITED AND ALLOWED FOR $ ___

NOTICE TO DEPT: GOODS DELIVERED MUST ... WITH ORDER. ... CHASING AT ONE ... DEVIATION

COUNTY OFFICE USE ONLY

...ION	VOUCHER NO.	CORR	... NO	CHECK NO.	VENDOR NO	ACCOUNT NO.	AMOUNT	CHANG...

APPENDIX A.1-7C

REFERENCE # 3
PAGE 97 OF 116

REC'D
FEB - 4 ...
DUT CO...
HEALTH DEPT

DUTCHESS COUNTY HEALTH DEPARTMENT

MEMORANDUM

TO: J. R. Hill

FROM: W. S. Capowski WSC

SUBJECT: Radiological Search, Town of Dover Landfill

DATE: February 4, 1982

On this date Ellis Adams and I met with Town of Dover Councilman George Morse and Town of Dover Landfill operator Ed Finley to radiologically search an area of the landfill that received a trash shipment from a hospital in Westchester County or Connecticut. The search was made with an Eberline PRM-6 Pulse Rate Meter having a SPA-3 Scintillation Probe Assembly. The result of the search was negative for radiological material.

There is in the Town of Dover landfill, another area of concern to Mr. Morse that was not searched due to excessive mud. This area will be examined as soon as the ground becomes either frozen or dry. You will be advised of my findings at that time. The landfill operator has been instructed not to disturb this area until it is checked.

WSC:bal
cc: E. Adams
D. Ruff

DUTCHESS COUNTY HEALTH DEPARTMENT

MEMORANDUM

TO: J. R. Hill

FROM: W. S. Capowski

SUBJECT: Town of Dover Land-Fill

DATE: February 18, 1982

A radiological search was completed on the remaining area of the Town of Dover Landfill as described in my memo of 2/4/82. Today's search was negative for radiological material.

WSC:bal

cc: E. Adams
D. Ruff

DC: ADM 7
HD-101

DUTCHESS COUNTY HEALTH DEPARTMENT

MEMORANDUM

TO: Ed Cassidy

FROM: Ellis W. Adams

SUBJECT: T. Dover Closed Landfill

DATE: November 2, 1984

In June 1983, the Dover landfill closed to the public. Since that time, this Department has been endeavoring to get the site properly closed.

We have not been successful. We have contacted, by phone, Otto Sprossel, Supervisor, several times with nothing being done.

Besides our responsibilities, we have received several complaints from the property owners, Helen and Leo Mastrochetti (832-6146 after 4 p.m.) from whom the Town leased the site. Their complaints are relative to the site not having been closed properly.

Mr. Sprossel's address is: High View Drive, Wingdale, 12594. Home phone: 832-6243; work phone 832-6611.

I would like to recommend, rather than legal action, a threatening letter with deadline for action or DEC will follow with legal action.

EWA:ds
cc: file

Appendix A1.3-1
1 of 3
REFERENCE # 3
PAGE 100 OF 116

FINAL REPORT

WATER RESOURCES STUDY FOR DUTCHESS COUNTY

for

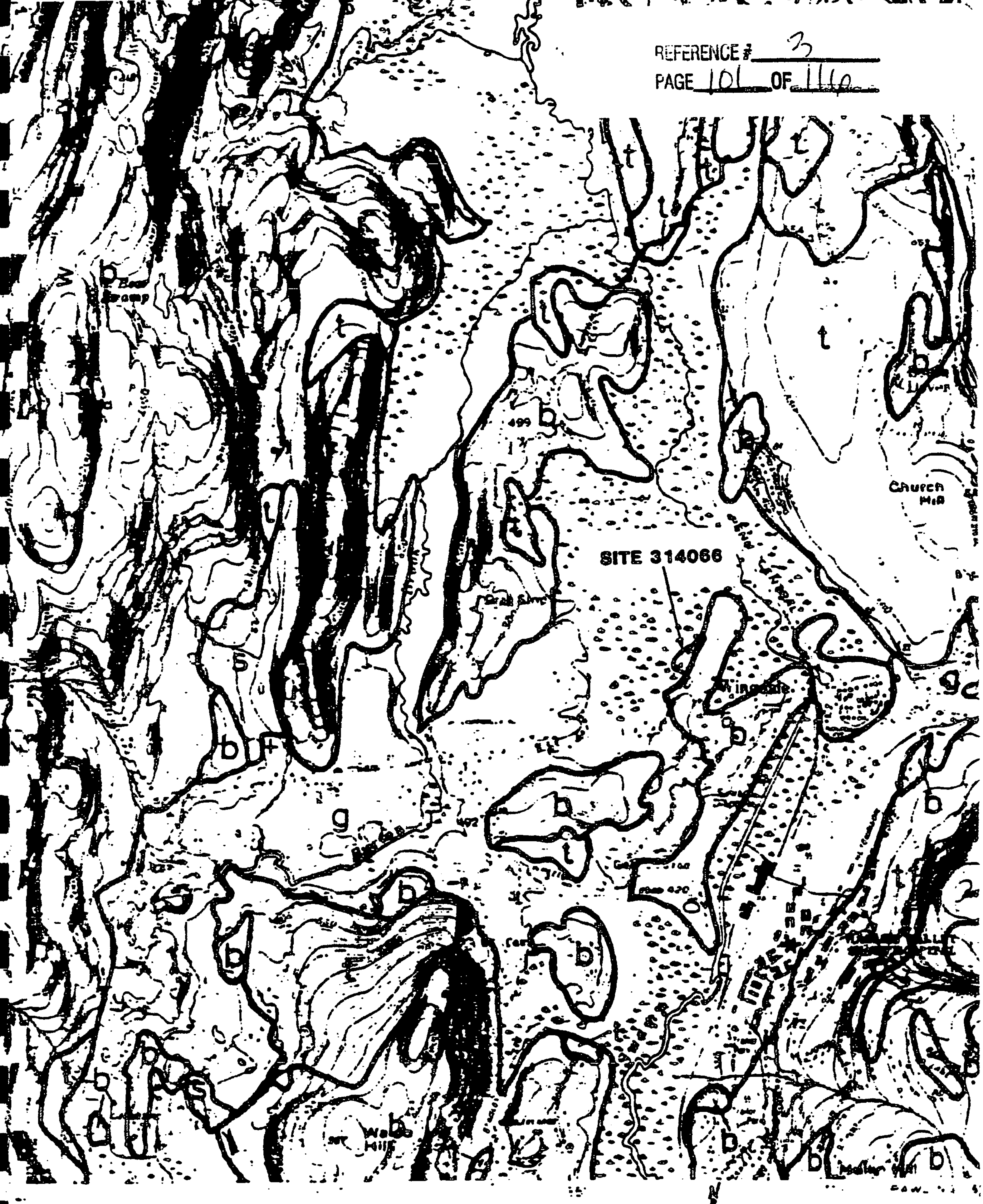
Dutchess County Department of Planning

by

Robert G. Gerber
Consulting Civil Engineer and Geologist
Ash Point Road
South Harpswell, Maine 04079

June 1982

REFERENCE # 3
PAGE 101 OF 116



SCALE 1:24,000

TABLE 7--ALLOWABLE RESIDENTIAL DENSITIES FOR HOMES ON SEPTIC TANKS AS LIMITED BY WATER QUALITY IMPACTS

Geologic Unit Code	Soil Type	Natural Recharge Rate	Allowable Dwellings Per Acre	Allowable Acres per Dwelling
s	thin sand and gravel	0.74 gpm/acre	1.6	0.6
g	thick sand and gravel	0.93 gpm/acre	2.0	0.5
b	thin soil over rock	0.35 gpm/acre	0.75	1.3
t	thick silty till	0.17 gpm/acre	0.4	2.7
l	lacustrine clay-silt	0.12 gpm/acre	0.25	4.0

FORMULA FOR CALCULATING ALLOWABLE DENSITIES:

$$C_{nitrate} = C_b + \frac{(C_s \times q_s \times d)}{q}$$

$C_{nitrate}$ is the resultant concentration of nitrate-nitrogen in ground water as a result of subsurface sewage disposal systems; maximum acceptable = 10 mg/l

C_b is the background concentration of nitrate-nitrogen in ground water, which is equal to about 0.25 mg/l (parts per million) in a forested area

C_s is the concentration of nitrate-nitrogen in septic tank discharges that reach the ground water = 30 mg/l

q_s is the average leachfield discharge rate per dwelling, which is equal to 70% of 300 gallons per day or 0.15 gallons per minute

q is the rate of natural ground water recharge, averaged over the year

d is the allowable housing density in dwellings per acre which is derived algebraically

REFERENCE # 3
102 OF 116

Appendix A1.3-2
1 of 3
REFERENCE # 3
PAGE 103 OF 116

FINAL REPORT

WATER RESOURCES STUDY FOR DUTCHESS COUNTY

for

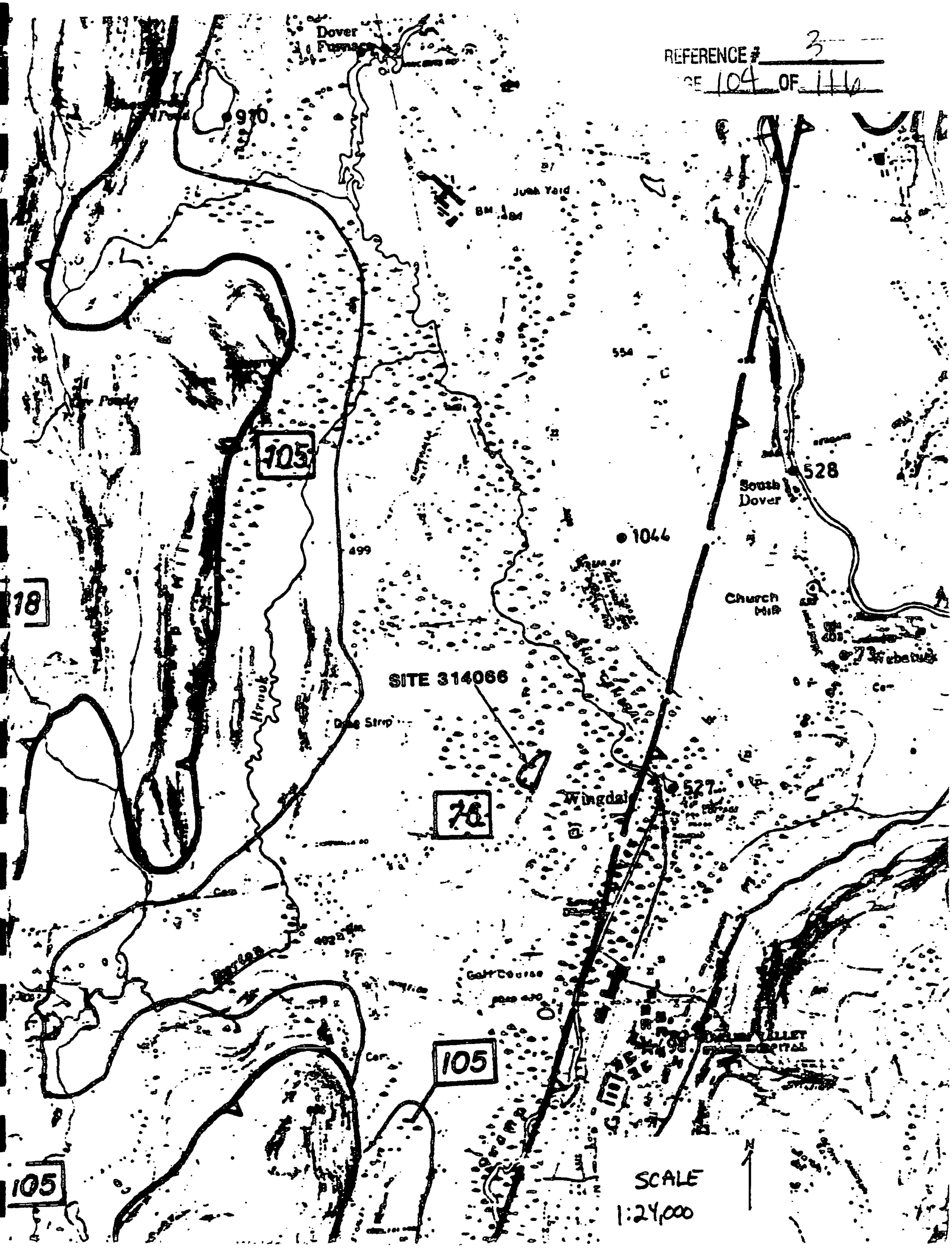
Dutchess County Department of Planning

by

Robert G. Gerber
Consulting Civil Engineer and Geologist
Ash Point Road
South Harpswell, Maine 04079

June 1982

REFERENCE # 3
PAGE 104 OF 116



BEDROCK AQUIFER INDEX - WATER RESOURCES PLANNING, DUTCHESS COUNTY, NY

REFERENCE # 3
PAGE 105 OF 116

Carbonate Rocks (AQUIFER NOS. 40-81)

SYMBOL	BEDROCK FORMATION	ROCK TYPES
Oba	Balmville	Limestone
OЄw	Wappinger Group	Limestone, Dolostone, Shale
Ow	Copake	Limestone, Dolostone, Siltstone
Єw	Briarcliff/Pine Plains	Dolostone, Shale, Oolite
Єs	Stissing	Dolostone, Shale
OЄst	Stockbridge	Marble

BEDROCK AQUIFER NUMBERS and ASSOCIATED ROCK TYPE SYMBOLS

40 OЄw; minor Oba
41 OЄw
42 OЄw
43 OЄw
44 OЄw
45 OЄw; minor Oba
46 OЄw; minor Oba
47 OЄw; minor Oba
48 OЄw
49 OЄw
50 OЄw
51 OЄw; minor Oba
52 OЄw
53 OЄw
54 OЄw
55 OЄw
56 OЄw; minor Oba
57 ?Oba?
-
-
60 Oba, Єw
61 Ow, Єw
62 Єs
63 Ow, Єw, Єs
64 Єw, Єs
65 Ow, Єw
66 Ow, Єw
67 Oba, Ow
68 Oba
69 Oba
70 Oba
71 Oba
72 Oba
73 OЄst
74 OЄst
75 OЄst
76 OЄst
77 OЄst
78 OЄst
79 OЄst
80 OЄst
81 OЄst

Appendix A1.5-
p. 1 of 4

REFERENCE # 3
PAGE 106 OF 116

SOIL SURVEY

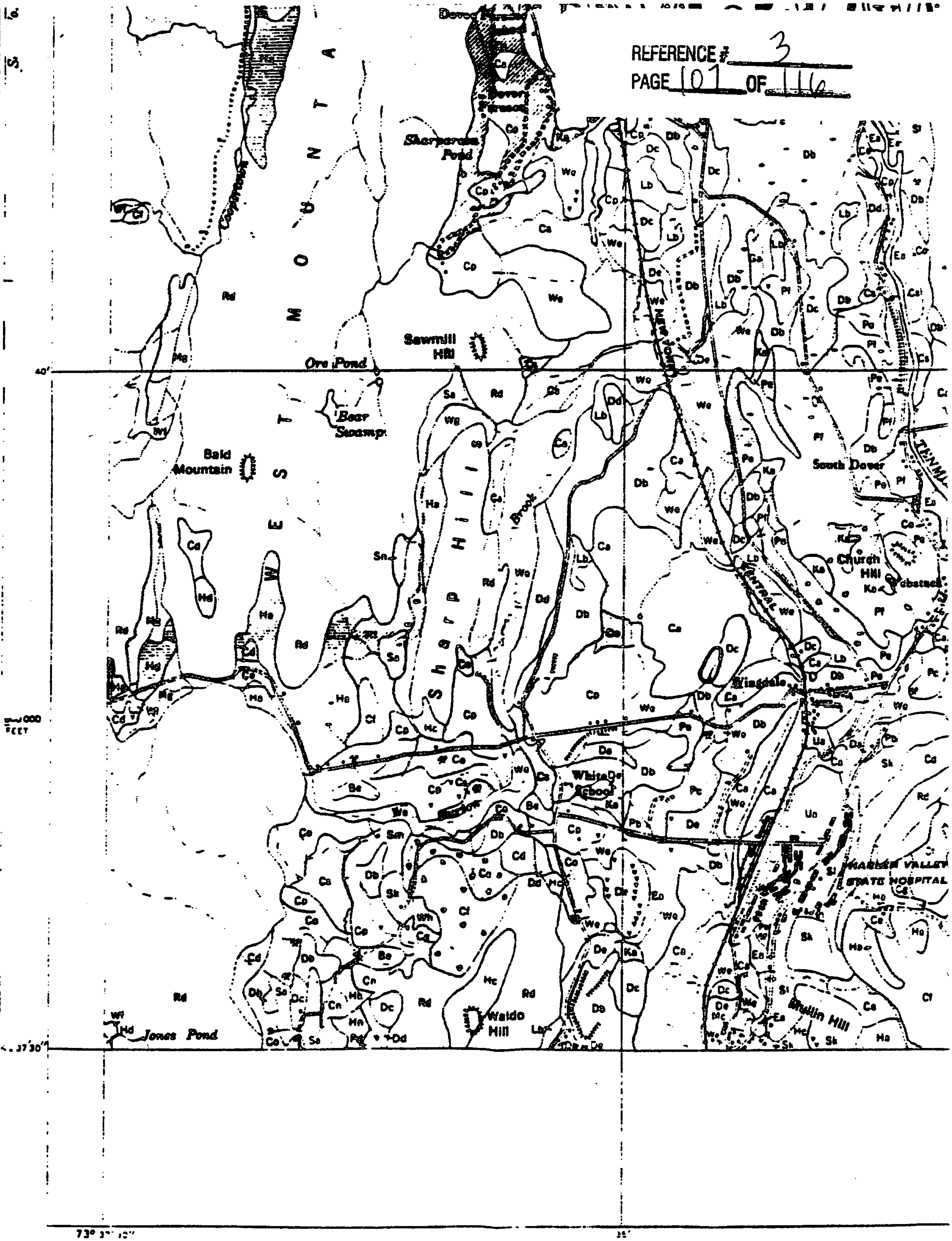
Dutchess County New York

Series 1939, No. 23

Issued December 1955

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with the
CORNELL UNIVERSITY AGRICULTURAL EXPERIMENT STATION

REFERENCE # 3
PAGE 101 OF 116



ıe soil is best suited to pasture or to a 5- or 6-year rotation con-
ıg of at least 4 years of hay and not more than 1 year of inter-
l crops. Alfalfa is well suited and should be included in seeding
ures for long-term hay. Birdsfoot trefoil may prove equally well
d to hay mixtures and better suited to pastures. The lime re-
ement of the soil is low, but crops respond to phosphorus.

**ver fine sandy loam, ledgy rolling phase (5-15% slopes)
).**—Many outcrops of crystalline limestone characterize this very
low soil that developed from shallow deposits of glacial till and
rials weathered from the underlying crystalline limestone bed-
. The principal rock constitutent of the glacial till is crystalline
stone, which weathers easily into a fine sandy loam. Other rock
rials present in smaller quantity are schist, quartzite, slate, and
ss.

he soil occurs on low hills and knolls that seldom rise more than
feet above the floor of the Harlem Valley. The relief is
ven. White sand is common on the surface where a rock outcrop
isintegrating. Where the surface of an outcrop joins the soil,
ral inches of disintegrating sandy material lie upon the soil.
surface and internal drainage are good.

eneath a pasture sod, the surface soil is a dark coffee-brown mellow
luffy finely granular fine sandy loam, neutral or alkaline, well
trated with grass roots, and about 9 inches thick. From 9 down
inches, the subsoil is strongly alkaline, mellow, brown fine sandy
. Below 17 inches to a depth of 21 inches the subsoil is light
owish-brown fine sandy loam that is friable, mellow, and slightly
areous. Below 21 inches and extending to 26 inches is strongly
areous very light-gray fine sand, which rests on the crystalline
stone bedrock. Roots penetrate all layers but are most abundant
e surface soil.

he soil varies chiefly in depth. Outcrops of the underlying
stone are numerous, but in pockets between them the average
h of soil is about 24 inches. Nevertheless, the layers of bedrock
tilted on edge, and in pockets between outcrops the soil may be
uch as 4 feet deep. The soil is moderately eroded in most areas.
w small included areas have been severely eroded.

se and management.—The cultivated areas of this soil are shal-
but contain fewer outcrops than normal for the entire soil. They
used principally for hay grown in rotation with corn and oats.
n 10 to 12 tons of manure and 300 to 400 pounds of 20-percent
rphosphate an acre are usually applied for corn, and 150 to
pounds of superphosphate for oats. Timothy, red clover, and al-
a, the principal hay crops, are maintained from 3 to 5 years and
pastured 1 or 2 years before plowing. Top dressings of manure
sometimes applied to hay crops to maintain the stands longer.
soil is inclined to be droughty. Yields vary with the quantity of
fall during the growing season. Cultivable areas like these are
ptions; the soil normally cannot be cultivated and is pastured
3, *A*).

aster, wild carrot, and other weeds grow in the poorest pastures, and some brushy growth of hardhack, redcedar, and hawthorn is encroaching. Pastures need phosphorus but no lime.

The forests are young, and the stands are irregular. Redcedar, usually the dominant tree, occurs with some gray and white birches, locust, hard maple, and wild cherry. Redcedar and brush soon invade idle areas.

Dover fine sandy loam, ledgy hilly phase (15–30% slopes) (Dn).—More strongly sloping and hilly areas associated with the ledgy rolling phase are occupied by this soil. The relief is irregular. Outcrops of distintegrating white limestone are conspicuous and somewhat more numerous than on less steeply sloping phases of Dover fine sandy loam. About 25 percent of this soil has been severely eroded; the rest, moderately eroded. The light fluffy surface soil, the shallowness of the profile, and the irregularity of relief makes danger of erosion great. Cultivation is extremely difficult and usually results in serious loss of soil.

The profile in moderately eroded areas is similar to that of the ledgy rolling phase. The surface soil in severely eroded areas is composed principally of subsoil material; it is light brown and about 6 inches thick. The subsoil, a light yellowish-brown fine sandy loam, extends to a depth of 12 inches. Below 12 inches lies a 4- or 5-inch layer of disintegrated bedrock, a light-gray fine sand that rests on the solid white limestone.

Use and management.—This soil is mostly in pasture and forest. Pasture is good in the spring but poor in summer. The bluegrass, redtop and wild white clover sods are usually heavy. About a fourth of the pasture is on eroded areas, and erosion is still active in places. Light applications of manure or phosphate would probably improve the pasture so it could hold the soil, but most pastures are not fertilized. The soil is droughty, and in dry seasons the vegetation is severely damaged. The forest is young and consists of the same species as are on the ledgy rolling phase.

Dover fine sandy loam, ledgy steep phase (30–45% slopes) (Do).—This soil has steep irregular slopes and many outcrops of the underlying rock. Areas vary from 2 to 70 acres in size.

The profile in the moderately eroded areas (65 percent of the phase) is generally similar to that of the ledgy rolling phase but thinner over bedrock in most places. The present surface soil in pastures is about 5 inches deep and grayish brown. Beneath the surface soil is about 3 inches of light yellowish-brown friable fine sandy loam subsoil, which rests at a depth of about 8 inches on very light-gray fine sand from disintegrated limestone. The solid bedrock normally occurs at ...s of 10 to 15 inches.

Use and management.—Under forest this soil appears to b... i- lized; slips develop only where forest is pastured. This soil ... st used for forest in most places. Redcedar comes in rapidly an... e dominant species. Gray and white birches, white pine, black ... t, and maple are also present. The forest is all young, which ir... es

REFERENCE 3
PAGE 108 OF 116

Use and management.—Cultivated areas of these soils are used and managed much like the associated better drained soils such as Hoosic gravelly loam, nearly level and undulating phases. A few areas are used for orchards, however, and alfalfa is not commonly used in the hay seedings. A timothy-redtop-alsike mixture, or timothy alone, is most commonly sown for hay. Yields are not much lower than those on the Hoosic soil. Vegetables are grown successfully on some areas.

Old hay meadows are frequently used for pasture and give fair to good yields of timothy, clover, and redtop, together with some weeds, plaintain, devils-paintbrush, and wild strawberry. A few old pastures are run-out and poor and support many weeds and some timothy, redtop, poverty oatgrass, and quackgrass. The few forested areas are mainly in elm, tulip-popular, hard and soft maples, and black birch.

The chief management needs of these soils are use of lime and phosphorus and planting of hay mixtures that include a long-lived legume, such as Ladino clover, that will tolerate imperfect drainage.

Carlisle muck (0–2% slopes) (CA).—Most of this deep alkaline muck occurs in the limestone or calcareous sandstone areas or along streams flowing from the limestone regions. Probably the largest areas are those along the Swamp River in the southeastern part of the county. These may be 120 to 185 acres in size but are usually 30 to 45 acres. The mineral soil in the muck came chiefly from limestone or calcareous sandstone.

The upper 14 inches is black friable granular slightly acid well-decomposed organic material. Below 14 inches to a depth of 28 inches the muck is very dark brown, lumpy, and weakly acid to neutral. Below 28 inches down to depths of 3 or 4 feet occurs brown partly decomposed sedge and woody peat, somewhat mottled and slightly alkaline. Beneath the peat are bluish-gray fine sandy loams or silts that are alkaline, firm, and friable.

Included with Carlisle muck are a few small areas, 2 to 10 acres in size, of alkaline muck that are comparatively shallow and underlain by marl.

Use and management.—The small cultivated areas of this soil are ditched and used mainly for corn. The forested areas support mainly hardwoods. If areas of this muck could be adequately drained, they would be among the most productive and valuable in the county. Outside this county Carlisle muck is used intensively for such high value crops as celery, onions, carrots, and other vegetables. To date, adequate drainage of most areas in this county has not been feasible.

Chagrin silt loam (0–3% slopes) (Co).—This is the most extensive soil of the Chagrin series. It occurs throughout the county. Small areas (2 to 15 acres) are in the western part of the county in the region where the soils have developed chiefly from glacial drift containing relatively large amounts of calcareous sandstone materials. They occur in the lake-plain region and in the smaller limestone valleys. In Harlem Valley the areas are generally larger (5 to 40 acres). The soil occurs on nearly level first bottoms adjacent to streams. It is well-drained, alkaline in the subsoil, slightly acid to medium acid at the surface, and suited to most crops commonly grown in the county.

The surface soil to a depth of 11 inches in cultivated fi
brown, friable, and of fine granular or crumb structur
slight grayish-brown cast when dry and a medium org
content. From 11 down to 24 inches is a lighter brown to
brown friable silt loam of good crumb structure. Down t
the soil is slightly to medium acid and has an abundan
The subsoil below 24 and continuing to a depth of 36 inch
friable light silt loam that breaks up into large irregular
that are soft, friable, and alkaline. Below 36 inches a
brown stratified sands and gravel that are firm in place, st
and alkaline. Roots are present throughout the profil
abundant at depths of less than 12 inches. The grayish-br
fied sands and gravel occur at the normal water level of t
streams.

Use and management.—Approximately 56 percent of C
loam is cultivated, and 30 percent is pastured. Althoug
areas are potential cultivated land, they are usually sma
erally are associated with soils less well suited to cultiv
vegetation in the forested areas consists mainly of elm,
oak, sycamore, willow, hickory, and basswood. Some h
white and black ash, and birch are also present.

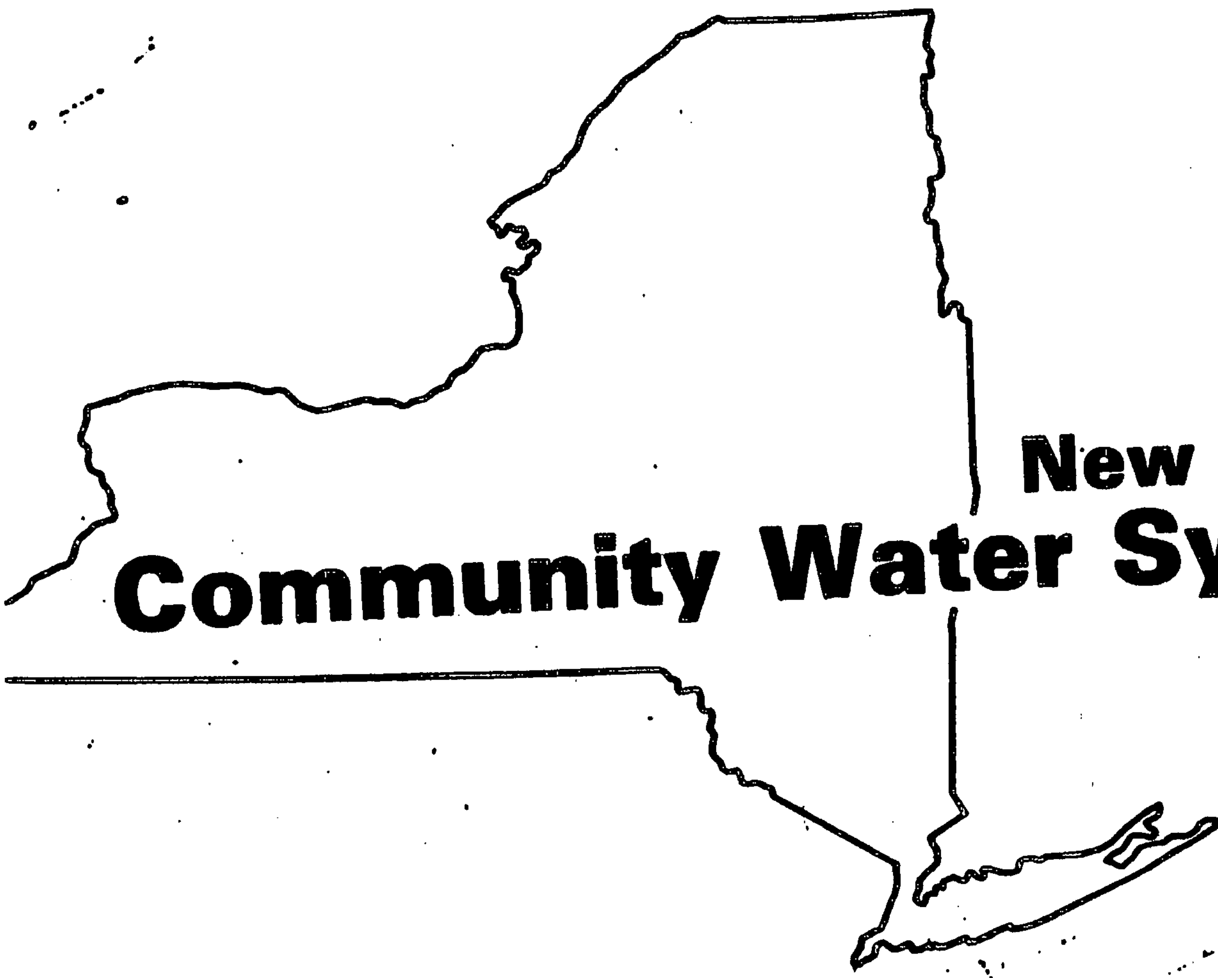
The cultivated areas are used intensively for corn, oat
and in some areas for vegetables. Regular rotations are n
Many farms use no fertilizer because the soil is sufficientl
produce good yields. Manure is usually applied for corn o
Small quantities of commercial fertilizer are used on the sm
in vegetables (sweet corn, beans, tomatoes, beets, and carr
seedings include timothy, timothy and red clover, or alf
etable yields are high, especially where adequate commerci
is used.

Most of the pasture is rotated with tilled crops, but
fourth is permanent. Pasture vegetation includes wild w
Canada and Kentucky bluegrasses, timothy, red clover,
percentages of quackgrass and other weeds. The pasture
well grazed, well managed, and more productive for a g
of the summer than that on most other soils.

Chagrin gravelly loam, alluvial fan phase (2–5% slop
This inextensive soil occurs principally in the eastern p
county along the edge of the major valleys where the str
the steeper uplands enter. It is usually in fan-shaped
narrow end of each area pointing upstream. Texture is v
is lighter and more gravelly at the narrow end of the fan a
at the mouth. Inasmuch as the channels of these
shallow, the soil is subject to more frequent flooring tl
loam. Relief is gently sloping from the narrow end o
the tip, and drainage is good.

The soil profile is similar to that of Chagrin silt
the lighter texture of the surface soil and the prese
all parts. The soil is also more open and porous through
fertile. The apparent organic content of the surface s
Surface and internal drainage are good. The soil is alk

REFERENCE # 3
PAGE 109 OF 116

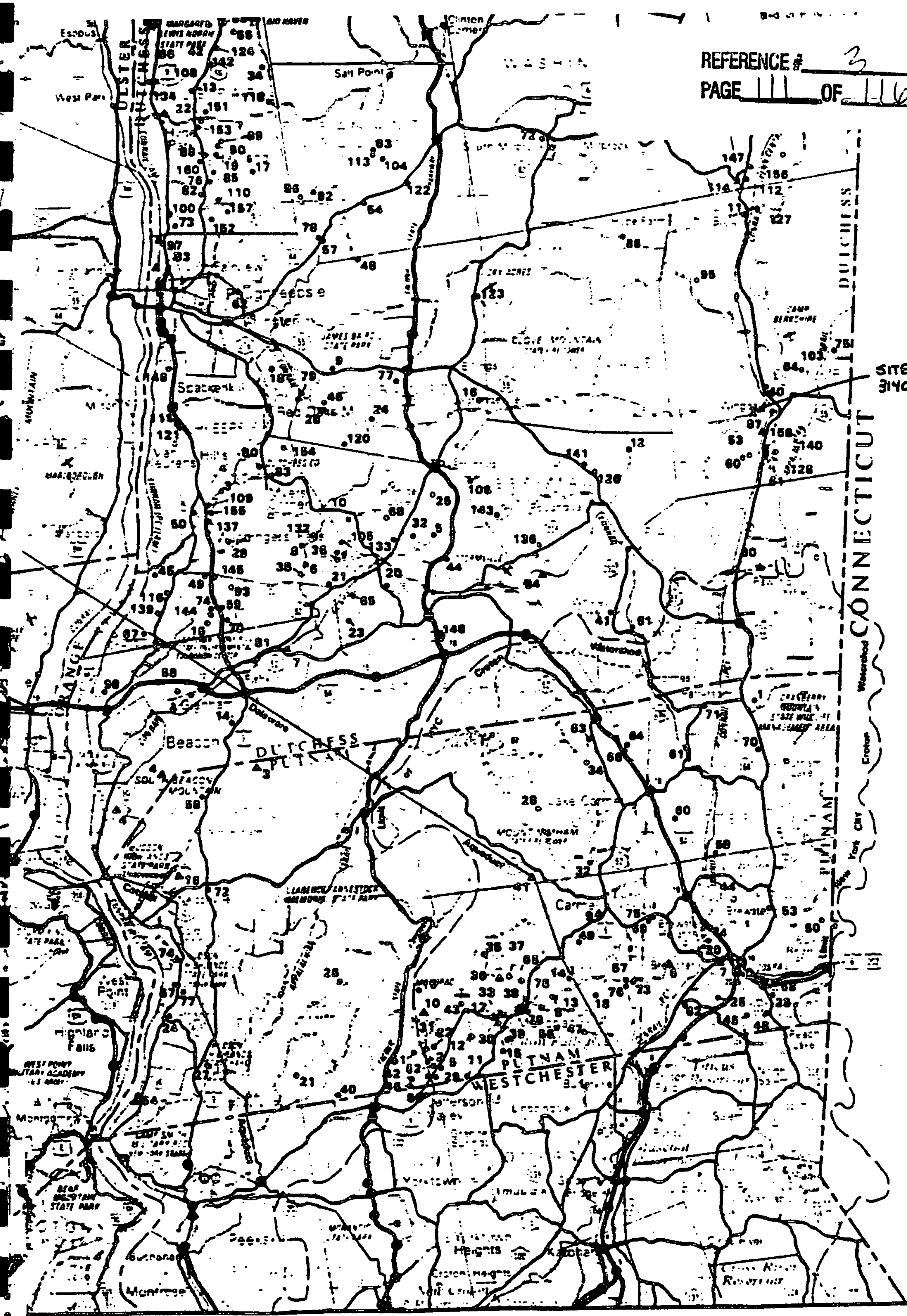


New York State Atlas of Community Water System Sources 1982

NEW YORK STATE DEPARTMENT OF H
DIVISION OF ENVIRONMENTAL PROT
BUREAU OF PUBLIC WATER SUPPLY PROT

REFERENCE # 3
PAGE 110 OF 116

REFERENCE # 3
PAGE 111 OF 116



SCALE 1:250,000

DUTCHESS and PUTNAM COUNTIES

DUTCHESS COUNTY

REFERENCE # 3 P. 3 of 3
PAGE 112 OF 116

Municipal Community

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
1	Amenia Water District #1	1000	Wells
2	Annandale Water Company	1008	Wells
3	Atlas Water Company	1300	Wells
4	Beacon City (See also No 3 Putnam Co)	5000	Mt. Beacon & Melzinga Reservoirs, Wells
5	Beekman Country Club	300	Wells
6	Brettview Acres Water Company	920	Wells
7	Brinkerhoff Water Company	3500	Wells
8	Central Wappinger Improvement Area	1800	Wells
9	Deerfield Estates Water District	900	Wells
10	Dogwood Knolls	600	Wells
11	Dover Plains Water Company	1500	Wells
12	Dover Ridge Estates	60	Wells
13	Dutchess Estates Inc	700	Wells
14	Fishkill Village	6000	Wells
15	Fleetwood Manor Water District	850	Wells
16	Grandview Water District	160	Wells
17	Greenfield Water District	1250	Wells
18	Greenmeadow Park Water Company	350	Wells
19	Harbourd Hills Water Company Inc	900	Wells
20	Hopegard, Inc	275	Wells
21	Hopewell Services Inc	900	Wells
22	Hyde Park Fire & Water District	4000	Crum Elbow Creek, Wells
23	Kensington Park Water Company	65	Wells
24	La Grange Club Estates	120	Wells (Infiltration Gallery)
25	Little Switzerland Water Company	600	Wells
26	Millbrook Village	1735	Wells
27	Millerton Village	1600	Wells
28	Noxon Knolls Water District	250	Wells
29	Oakwood Knolls	310	Wells
30	Pawling Village	2000	Pawling Reservoir, Wells
31	Pine Plains Water Company	1060	Wells
32	Pinewood Knolls	265	Wells
33	Poughkeepsie City	30000	Hudson River
34	Quaker Hill Estates Water District	424	Wells
35	Red Hook Village	2000	Wells
36	Revere Park Water Company	560	Wells
37	Rhinebeck Village	4200	Hudson River
38	Rockingham Farms	3000	Wells
39	Rokeby Homes, Inc	184	Wells
40	Schreiber Water Works	110	Wells
41	Shorehaven Civic Association	300	Wells
42	South Cross Road Water Company Inc	572	Wells (Infiltration Gallery)
43	Staatsburgh Water Company	1072	Indian Kill Reservoir, Wells
44	Taconic Estates	185	Wells
45	Tall Trees	250	Wells
46	Titusville Water District	700	Wells
47	Tivoli Village	713	Wells
48	Valley Dale Water Company	380	Wells
49	Wappinger Park Homes	400	Wells
50	Wappingers Falls Village	5300	Wells
51	Willow Lake Water Company	126	Wells
52	Windermere Highlands	375	Wells

Non-Municipal Community

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
53	Angels Trailer Park	40	Wells
54	Arbor Arms Apartments	50	Wells
55	Arvans Mobile Court #1	72	Wells
56	Bard College	NA	Sawkill Creek
57	Beckwith Trailer Park	26	Wells
58	BGB Mobile Home Park	137	Wells
59	Birchwood Mobile Home Park	42	Wells
60	Brooks Mobile Home Park	25	Wells
61	Connons Trailer Park	16	Wells
62	Canterbury Garden Apartments	600	Wells
63	Cedar Hollow Mobile Home Park	90	Wells
64	Cedar Lane Mobile Home Park #2	28	Wells
65	Charlotte Grove Mobile Trailer Park	110	Wells
66	Chateau Hyde Park Home for Adults	120	Wells
67	Chelsea Ridge Apartments	1800	Wells
68	Clove Branch Apartments	19	Wells
69	Colonial Maples Trailer Park	30	Wells
70	Cooper Road Trailer Park	35	Wells
71	Cove View Apartments	48	Wells
72	Daytop Village	70	Wells
73	Dutch Garden Apartments	450	Wells
74	Dutchess Trailer Park	30	Wells
75	East Mountain Trailer Park	28	Wells
76	Eleanor Roosevelt	200	Wells
77	Elliott Apartments	36	Wells
78	Ennis Mobile Home Park	92	Wells
79	Feller Trailer Court	60	Wells
80	Fieldside Apartments	50	Wells
81	Fishkill Park Apartments	240	Wells
82	Franconi Villas	50	Wells
83	Gerhard P Stoetzel	30	Wells
84	Green Haven Correctional Facility	NA	Reservoir
85	Green Meadow Trailer Court	44	Wells
86	Greer School	300	Wells
87	Harlem Valley Psychiatric Center	1200	Swamp River
88	Haviland Apartments	100	Wells
89	Haviland Mobile Home Park #1	44	Wells
90	Haviland Mobile Home Park #2	29	Wells

Non-Municipal Community

ID NO	COMMUNITY WATER SYSTEM
91	Hi Vu
92	Hickory Hill Mobile Home Park
93	Hidden Hollow Apartments
94	Hidden Valley Mobile Court
95	High Meadows Park Inc
96	Hoffman Trailer Park
97	Hudson River Psychiatric Cente
98	Hudson View Water Works
99	Hyde Park Mobile Manor Estate
100	Hyde Park Terrace Apartments
101	Kent Hollow Apartments
102	Kommel Trailer Park
103	Lake Ellis Mobile Home Park
104	Lake Lodges Apartments
105	Lake Walton Park
106	Lakeview Mobile Home Park
107	Lamplight Court Mobile Estates
108	Ledges Apartments
109	Little Falls Trailer Park
110	M and D Mobile Home Park
111	Maple Lane Trailer Park
112	May Lane Mobile Park
113	Maynards Mobile Manor
114	McCartha's Trailer Park
115	Mobile Home Gardens
116	Montclair Townhouse Apartments
117	Mountain View Mobile Estates
118	Northeastern Conference Nursin
119	Northern Dutchess Mobile Home
120	Odells Trailer Park
121	Osborne Trailer Park
122	Palmer Apartments
123	Parkway Apartments
124	Partridge Hill Apartments
125	Phillips Trailer Park
126	Pine Grove Mobile Home Park
127	Powell Road Mobile Park
128	Ramsey's Trailer Park
129	Red Church Trailer Park
130	Rhinebeck Country Village
131	Rhinebeck Mobile Court
132	Roberts Running Creek Trailer
133	Route 82 Trailer Park
134	Royal Crest Apartments
135	Sabo Trailer Park
136	Smith Mobile Home Park
137	Scenic Apartments
138	Scenic View Mobile Home Park
139	Shady Acres Trailer Park
140	Shady Homes Trailer Park
141	Shady Lane Trailer Park
142	Simpson Mobile Home Site
143	Springhill Mobile Home Park
144	Sunset Farms Mobile Home Park
145	Sunset Knolls
146	Taconic Motor Lodge
147	Tally Ho Mobile Estates
148	Tai Apartments
149	The Lodge at Rhinebeck
150	Unification Theological Church
151	Val Kill Park East
152	Valley Forge Mobile Home Park
153	Venture Lake Estates
154	Village Crest Apartments
155	Wappingers Falls Trailer Park
156	Wassaic Developmental Center
157	Willow Tree Park
158	Wingdale Village Park
159	Woodcrest Manor Adult Home
160	Woodfield Apartments

Appendix B1.5-3

1 of 2

EA SCIENCE AND TECHNOLOGY

A Division of EA Engineering, Science, and Technology, Inc.

REFERENCE # 3

PAGE 113 OF 116

COMMUNICATIONS RECORD FORM

Distribution: ( ) Round 3, Phase I Program File

( ) ____________, ( ) ____________

( ) Author

Person Contacted: Mr. Wayne Elliott   Date: ____________

Phone Number: 9142555453   Title: Regional Fisheries Manager.

Affiliation: NYSDEC Region III   Type of Contact: In Person

Address: New Paltz, NY   Person Making Contact: Bonig

Communications Summary: I explained EA's Phase I work and asked Wayne to indicate whether or not each of the streams in the attached list are viable (and currently utilized) recreational resources... ie. used for fishing, wading, swimming etc.

He studied the DEC files and indicated that each stream was indeed a recreational resource.

(see over for additional space)

Signature: William Bonig

All the attached have recreational utility

REFERENCE # 3
PAGE 114 OF 116

Dutchess County   Wayne Elliott NYSDEC Reg 3
8-29-86

RED Hook L.F (Rokeby Rd.) - Mudder Kill   per comm. Bud Going

3-STAR Anodizing - WAPPingers Creek & Hudson River

Amenia - WASSAic Creek

Andrews Prop. - Jackson Creek

Lafko Prop. - Trib. to Wappingers Creek & Wappingers Creek

White House Crossing - Noster Kill

EAst Fishkill - unnamed

Braendly Dye Co. - Fishkill Creek & Hudson River

Orange & Ulster County

Al Turi L.F. - Wallkill River

F & T Darrigo - Tributary to Orange Lake & Orange Lake

Dupont Stauffer - Gidneytown Creek

Napanoch Paper Mill - Roundout Creek

Rockland County

* RAMAPO Piece & Dye - RAMAPO River (Sloatsburg Area)

* RAMAPO Land Co. - " "

RAMAPO Incinerator - Unnamed Trib to Lake Lucille & Lake Lucil[le]

Stoney Point - Hudson River

Kyto Diagnostics - Tributary to DeForest Lake & DeForest La[ke]

Dexter L.F. - Hackensack River

Camp Shanks - Sparkkill Creek

Ulster County

Bates Scavenger - Sawmill River

Conrail - Harlem Div. - Trib. E. Branch River & E. Branch River Res.

[Seymour Rapkin - Pascack Brook

(47-15-11 (10/83)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID AND HAZARDOUS WASTE

REFERENCE # 3

PAGE 115 OF 116

INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

PRIORITY CODE: ______ SITE CODE: 314066

NAME OF SITE: Dover Landfill REGION: III

STREET ADDRESS: Pleasant Ridge Road

TOWN/CITY: Town of Dover, Village Wingdale COUNTY: Dutchess

NAME OF CURRENT OWNER OF SITE: Leo Mostachetti

ADDRESS OF CURRENT OWNER OF SITE: Mountain Road, Wingdale, New York

TYPE OF SITE: OPEN DUMP [ ] STRUCTURE [ ] LAGOON [ ] LANDFILL [X] TREATMENT POND [ ]

ESTIMATED SIZE: 5 ACRES

SITE DESCRIPTION:

The Dover Landfill is an inactive landfill approximately 5 acres in size and is located on private property owned by Leo Mostachetti. The site began operation about 1943-45 receiving residential waste from the Village of Wingdale. More recently the Town of Dover leased and operated the site. Most of the waste brought to the site was residential with a small fraction of commercial waste. The site was not permitted to receive industrial waste. The landfill is located on a ridge which is partially surrounded by marsh. An unapproved area of the marsh was used as a disposal area. Soils underlying the site are glacial sand and gravel deposits and Carlisle Muck. A permanent stream, Swamp River, runs through the marsh and is located about 300 feet northeast of the site. The nearest reported community well developed on the aquifer of concern is the Schreiber Water Works located 0.42 miles to the north. The nearest residence is 900 feet to the southwest, and the nearest commercial building is an office building for a peat mining operation located about 1,500 feet to the the northwest. There are probably many unreported wells developed in the aquifer of concern.

HAZARDOUS WASTE DISPOSED: CONFIRMED [ ] SUSPECTED [ ] Unknown

TYPE AND QUANTITY OF HAZARDOUS WASTES DISPOSED:

TYPE	QUANTITY (POUNDS, DRUMS, TONS, GALLONS)
Unknown	Unknown

TIME PERIOD SITE WAS USED FOR HAZARDOUS WASTE DISPOSAL:

________, 19 43-45 TO June, 19 83

OWNER(S) DURING PERIOD OF USE: Leo Mostachetti

SITE OPERATOR DURING PERIOD OF USE: Town of Dover

ADDRESS OF SITE OPERATOR: Pleasant Ridge Road, Wingdale, New York 1259-

ANALYTICAL DATA AVAILABLE: AIR [ ] SURFACE WATER [ ] GROUNDWATER [ ]
SOIL [ ] SEDIMENT [ ] NONE [X]

CONTRAVENTION OF STANDARDS: GROUNDWATER [ ] DRINKING WATER [ ]
SURFACE WATER [ ] AIR [ ]

SOIL TYPE: Glacial outwash sand and gravel deposits (Dover fine sandy loam) and Carlisle Muck.

DEPTH TO GROUNDWATER TABLE: ________

LEGAL ACTION: TYPE: Dutchess County Dept. of Health STATE [X] FEDERAL [ ]
STATUS: IN PROGRESS [X] COMPLETED [ ]

REMEDIAL ACTION: PROPOSED [ ] UNDER DESIGN [ ]
IN PROGRESS [ ] COMPLETED [ ]

NATURE OF ACTION: ________

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

The potential for ground and surface water contamination exists, although waste characteristics are unknown. The landfill has not been properly closed--there is waste protruding through the cover material, the quality of cover material used is not adequate, and part of the marsh surrounding the landfill was used as a disposal area. Leachate stains have been observed at the perimeter of the landfill. Access to the site is not restricted.

ASSESSMENT OF HEALTH PROBLEMS:

No health problems are known to exist. The site is easily accessible to the public.

PERSON(S) COMPLETING THIS FORM:

FOR NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION	NEW YORK STATE DEPARTMENT OF HEALTH
NAME EA Science and Technology	NAME
TITLE	TITLE
NAME	NAME
TITLE	TITLE
DATE: 18 July 1985	DATE:

REFERENCE 4

MEMORANDUM

To: File

From: Donna J. Bolner

Subject: Dover Landfill No. 2 Site Reconnaissance
WE Project No. 04828.01

Date: December 14, 1994

This memo describes the activities and observations of a December 1, 1994 Site Reconnaissance visit at the Dover Landfill No. 2 site, in accordance with the Ebasco/ARCS program conducted. Wehran field personnel included Donna Bolner and Julia Gilbert. Wehran calibrated field equipment (HNu 10.2 eV) on site before conducting the site inspection.Weather conditions during the inspection were no precipitation, sunny, light winds and temperatures in the 30's.

At 8:00am on December 1, 1994, Wehran field personnel met Mr. Leo Mostachetti, owner of Dover Landfill No. 2 site, at his residence on Dutchess County Route 21, less than 1 mile from the Dover Landfill No. 2 site. Once on site, Wehran was met by Mr. William Yeno (Town of Dover Engineer) and Joe Buschynski (Consultant for the Town of Dover, Bibbo and Associates), both of whom were working with the Town of Dover to cap and close the landfill. Mr. Buschynski provided a copy of a 1990 Phase II report conducted on the site. Wehran was informed by Mr. Yeno that the Dover Landfill No. 2 was in the process of being capped. Approximately one-third of the landfill had been capped, seeded and had grass growing. Wehran was informed that final capping of the remaining portion of the landfill would begin after the Town of Dover had received the results from soil samples collected and compaction tests conducted on site.

The Dover Landfill No. 2 site is located off of Dutchess County Route 21 and is approximately 5 acres in size, and elliptical in shape. The landfill is situated between low-lying Federal Extensive Wetlands, to the south, north and west with a wooded ridge to the east. Outcrops of clean, white marble/limestone bedrock are prevalent on the east side ridge. The wetland areas surrounding the site finger inside the marked landfill boundaries in several locations, but predominately on the north and west sides. Standing water was observed within the landfill boundary along the south-southwestern side of the landfill. Runoff from the top of the landfill would be directed, using a plastic culvert pipe, to the southern end of the landfill.

A perimeter inspection of the Dover Landfill No. 2 yielded the following observations:

- The landfill was surrounded with a temporary containment curtain to catch any sediment that erodes from the landfill. The landfill was not secured by any other fences or barriers. The landfill, however was located approximately .2 miles off of any major road, in a wooded remote area. The dirt road to the landfill does have a gate.

- Five perimeter groundwater monitoring wells are located on site. Monitoring wells MW-1 and MW-2 (couplet) are located on the east side of the landfill. MW-3 and MW-4 are located on the west side of the landfill, and MW-5 is located on the north end of the landfill. All wells were locked and appeared to be in good condition. MW-3 was observed to be a flowing artesian well.

- Several small gullies, from erosion, were observed on the slopes of the landfill, exposing refuse. The largest gully was approximately three feet in width and thirty to forty feet in length. All gullies were observed on the uncapped portion of the landfill.

- Refuse was exposed through the layer of clay on the remaining two-thirds of the uncapped landfill. Clay cover was minimal towards the northern most end of the landfill. No obvious odors were observed by field personnel or field equipment.

- Leachate was observed seeping from the landfill in more than one location. The leachate on site was characterized as an orange-brown discoloration of sediment and a sheen on standing water. The first leachate outbreak was located on the western perimeter of the landfill, towards the north end. Leachate extended approximately 110 feet beyond the toe of the landfill in lenght, and 40 feet wide, out into the adjacent wetland area. The extent of the leachate within the containment curtain was approximately 15 feet wide and 52 feet in length. Two other isolated outbreaks of leachate were observed on the northern most end of the landfill. Both of these outbreaks were in standing water and were 5 feet by 10 feet; and 2 feet by 3 feet. Vegetation that was in contact with the leachate did not appear to have been affected in any way.

- There were no on-site residents or workers, other than those workers capping the landfill.

- Distance to the nearest house is 0.2 mile. A total of four houses are located at the entrance to the landfill. All houses in the immediate vicinity of the landfill are on private water wells. It is not known if these wells are drilled into bedrock.

- No buildings or structures were located on-site. The road into the landfill was not paved, nor were there any paved surfaces on the landfill.

- The landfill opened in 1943, closed in 1982, and covering the landfill for closure purposes began in 1986.

- Land adjacent to the landfill on the east side is owned by Leo Mostachetti, the owner of the Dover Landfill No. 2 site.

- All air monitoring results, using the HNu (10.2 eV) were at background at 1 part per million (ppm). Also, during the site visit no evidence of any biogas release was observed.

- No schools/daycare centers are located within 200 feet of the site.

- Vegetation on and near the landfill, with exception to the uncapped portion of the landfill, was plenty and showed no signs of stress.

- A total of seventeen photos were taken during site reconnaissance, for photo documentation.

- A copy of the site field notes are included as an appendix to this memo.

Wehran field personnel completed the site reconnaissance and departed the Dover Landfill No. 2 site at approximately 11:15am.

DJB/sf

[redacted]

2/94-TH Dover Landfill 04.29.01

ARCS Dover Landfill w/ DE Bolnes
Cool, Sunny, Sl. breeze 30s/50s
20 leave Home
:0 meet D. in Highland
:00 meet : site owner Mr. Machew
05 on site
5 monitoring wells
Federal wetland.
meet w/ Bill Kno T. of Dover Eng
25 Joe Broshenzky Dover Phase 2 Consultant arrives
Calibrate HNU to 55 ppm w/gas
Span 9.10
HNU BZ = 0 BG <1ppm
Nearest Houses are along Rte 21.
All wells are private and sealed in BR.
Bedrock is shallow

Well Couplet locked
Bedrock outcrop near entrance road
Landfill was originally a N/S Ridge, & they filled off to the W.

Photo 1 NNE from entrance road

04.29.01 Dover Landfill

Photo 2 Well Couplet looking NE from parking ②

HNU Drainage ditch sediment = BG <1ppm
= BG <1ppm
(.3 ppm)

Plastic Culvert Down east side for drainage from top

Some small gullies from erosion / landfill
HNU Gully = BG <1ppm. Gully on sides of capped landfill

Approx 1/3 of Landfill capped & seeded & grass is growing.
Top portion waiting for results from soil samples & compaction before final cover

Runoff from top side of landfill goes into wetland ③ on S. side of Landfill
8:49 HNU sediment topside landfill = BG <1ppm
8:50 HNU = BG <1ppm from cover at top of landfill

Photo 3 To N up drainage ditch/culvert

1/2/1/94 TH Dover Landfill 04829.01

ARCS site inspection w/ D. Balm

Photo 4. To SSW from drainage ditch into woods

Photo 5 from S Toe of Landfill to marsh & water (standing water)

Landfill is surrounded by contain to trap ...

In some places along toe, dirt barrier has been placed to limit runoff to swamp

Photo 6 Drainage ditch at toe looking W

I make end of drainage ditch

Landfill touches wetland (standing water) on SW & W Two

9:00 HNU wet cover soil near wetland = BG <1ppm

HNU BZ = BG

Wetland Classified as Federal

Extensive wetland.

No odors

Well No 3. Flowing artesian well locked

9:10 HNU Well = BG <1 ppm

1/2/1/94 Dover Landfill 04829.01

Photo 6. Well No 3 looking N

Another small Runoff gully on W. S. ...

9:15 HNU Gully = BG <1 ppm

Final cover ends on W. face. Next section has ...

Gully @ edge of cover in unfinished @ from runoff erosion

Sediment deposited at toe & held by barrier.

Held goods, tires, wood, ... plastics exposed

9:20 HNU Gully Sediment = BG <1 ppm

Photo 7 To W down gully w/ exposed garbage

Well 4 in wet @ locked

9:24 HNU = BG Well 4

HNU BZ = BG <1ppm

Photo 8 To NE Trash exposed along toe of N.W. slope

REFERENCE # 4

PAGE 6 OF 8

74 TH Dover Landfill 0482901
w/D. Bolen
s site inspection

D. notices: R. S. Refuse odor
could be swampy odor
HNU trash = BG <1ppm

y cover ends, trash exposed on
northern (<) 1/3 of landfill.
eachate out break Pool
Standing water
noticable sheen on water, & brown
coloration

oto 9 to NW Leachate closeup
oto 10 to NW leachate puddle
to 11 to N exposed trash & leachate
No odors

HNU BZ = BG <1ppm
HNU Leachate area = BG <1ppm

hoto 12 Leachate Closeup showing Sheen

eachate has gotten mitigated, out pool
basin contain

12/1/94 TH 04529.01 Dover Landfill

Photo 13 Delineating Leachate
Photo 14 "

Leachate extends @ 40' beyond
marks

Leachate extends ~ 110' from
toe of landfill into the wetlands
width of contaminated ~ 40-50' wide
No apparent stressed vegetation. No odors
Leachate Source @ mound

Landfill
N 52' x 15'
wetland

Town is still in process of putting clay cover
down on N face - much exposed
wood & refuse

Photo 15 to NNE NE face of LF

Two isolated areas of leachate (H2O/sheen)
1st 5' x 10' standing water
2nd 2' x 3' w/ unsheened water @ it standing
water

REFERENCE # 4
PAGE 7 OF 8

Flowing wtr along NE edge of landfill
Small @ of sheen
.5' x 1.5'
Photo 16 (small @ of sheen on NE
sheen appears to be adhered
to twigs; leaves, not free flowing

wetland @ w/ standing wtr.
no sheen, no staining, evidence of
bug life. No apparent stressed
vegetation. No odor

Bedrock outcrops along NE side
= Fine & lean white limestone/marble

Gully from runoff erosion. No refuse
exposed - wood

Wtr heater dumped in woods on E side of
landfill. Other convenience dumping (tires)
10:17 HNU BZ = BG (<1ppm) E face of LF

Unlimited site access - no fences, no security
system

Dump opened 1943
closed 1982
started covering 1986

Photo 17 to S. at wetland at toe
of LF.

Well No. 5 locked (on N side of Landfill)

No onsite residents or workers

Distance to nearest House = 2 mile
houses at entrance All
private water

Gate to Landfill, open

11:15 off site

11:30 - 12:30 Lunch

REFERENCE # 4
PAGE 8 OF 5

REFERENCE 5

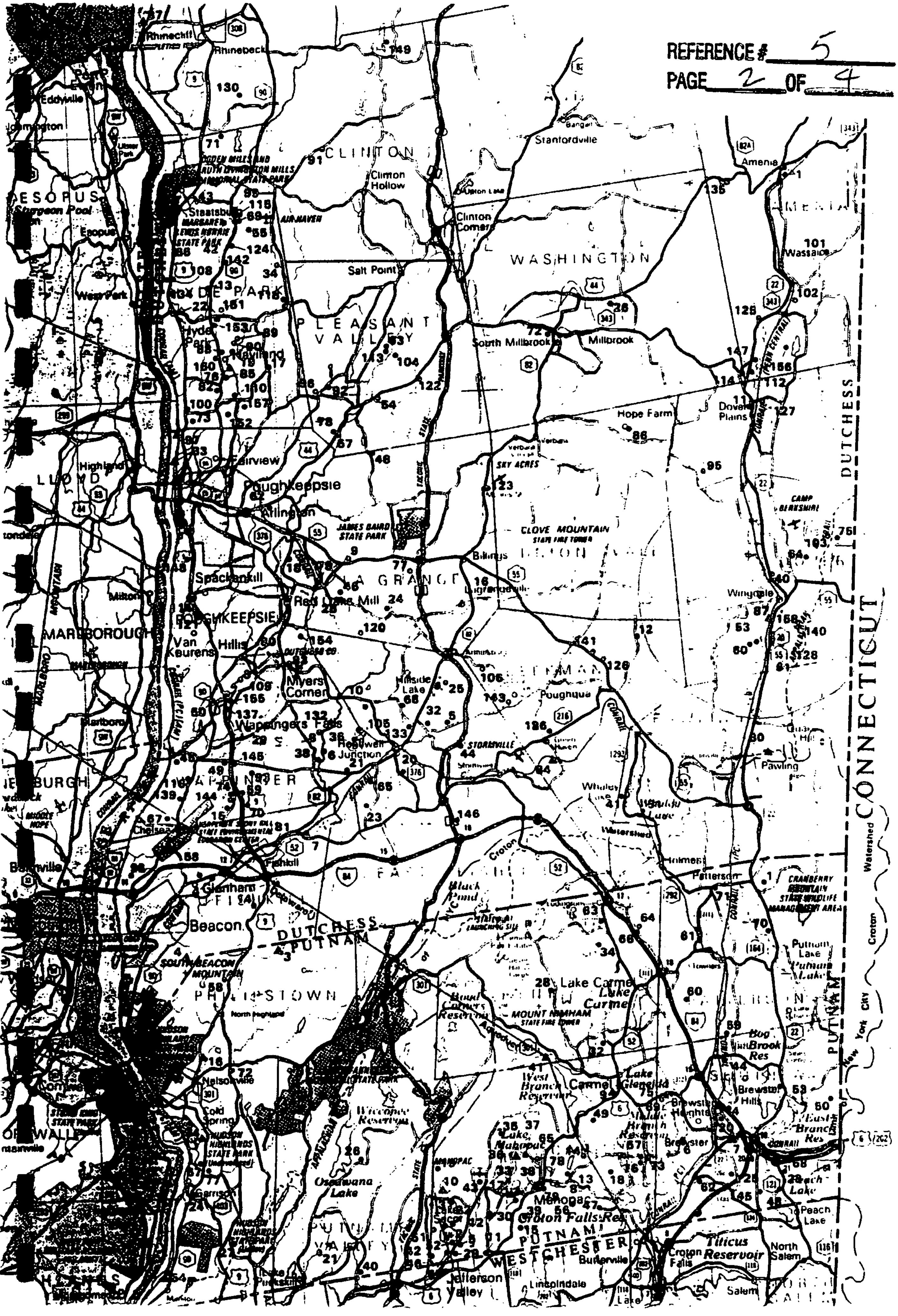
REFERENCE # 3
PAGE 1 OF 4

New York State Atlas of Community Water System Sources 1982

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF PUBLIC WATER SUPPLY PROTECTION

ENGINEERING
East Main Street
York 10940

REFERENCE # 5
PAGE 2 OF 4



URCES-1982

BUREAU OF PUBLIC WATER SUPPLY PROTECTION

REFERENCE # 5
PAGE 3 OF 4

DUTCHESS COUNTY

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
	Municipal Community		
1	Amenia Water District #1	1000.	Wells
2	Annandale Water Company	1008.	Wells
3	Atlas Water Company	1300.	Wells
4	Beacon City (See also No 3 Putnam Co)	5000.	Mt. Beacon & Melzinga Reservoirs, Wells
5	Beekman Country Club	300.	Wells
6	Brettview Acres Water Company	920.	Wells
7	Brinkerhoff Water Company	3500.	Wells
8	Central Wappinger Improvement Area	1800.	Wells
9	Deerfield Estates Water District	900.	Wells
10	Dogwood Knolls	600.	Wells
11	Dover Plains Water Company	1500.	Wells
12	Dover Ridge Estates	60.	Wells
13	Dutchess Estates Inc	700.	Wells
14	Fishkill Village	6000.	Wells
15	Fleetwood Manor Water District	850.	Wells
16	Grandview Water District	160.	Wells
17	Greenfield Water District	1250.	Wells
18	Greenmeadow Park Water Company	350.	Wells
19	Harbourd Hills Water Company Inc	900.	Wells
20	Hopegard, Inc	275.	Wells
21	Hopewell Services Inc	900.	Wells
22	Hyde Park Fire & Water District	4000.	Crum Elbow Creek, Wells
23	Kensington Park Water Company	65.	Wells
24	La Grange Club Estates	120.	Wells (Infiltration Gallery)
25	Little Switzerland Water Company	600.	Wells
26	Millbrook Village	1735.	Wells
27	Millerton Village	1600.	Wells
28	Noxon Knolls Water District	250.	Wells
29	Oakwood Knolls	310.	Wells
30	Pawling Village	2000.	Pawling Reservoir, Wells
31	Pine Plains Water Company	1060.	Wells
32	Pinewood Knolls	265.	Wells
33	Poughkeepsie City	30000.	Hudson River
34	Quaker Hill Estates Water District	424.	Wells
35	Red Hook Village	2000.	Wells
36	Revere Park Water Company	560.	Wells
37	Rhinebeck Village	4200.	Hudson River
38	Rockingham Farms	3000.	Wells
39	Rokeby Homes, Inc	184.	Wells 1.5 mile
40	Schreiber Water Works	110.	Wells
41	Shorehaven Civic Association	300.	Wells
42	South Cross Road Water Company Inc	572.	Wells (Infiltration Gallery)
43	Staatsburgh Water Company	1072.	Indian Kill Reservoir, Wells
44	Taconic Estates	185.	Wells
45	Tall Trees	250.	Wells
46	Titusville Water District	700.	Wells
47	Tivoli Village	713.	Wells
48	Valley Dale Water Company	380.	Wells
49	Wappinger Park Homes	400.	Wells
50	Wappingers Falls Village	5300.	Wells
51	Willow Lake Water Company	126.	Wells
52	Windermere Highlands	375.	Wells

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
	Non-Municipal Community		
53	Angels Trailer Park	40.	Wells 3.7 mi
54	Arbor Arms Apartments	50.	Wells
55	Arvans Mobile Court #1	72.	Wells
56	Bard College	NA.	Sawkill Creek
57	Beckwith Trailer Park	26.	Wells
58	BGB Mobile Home Park	137.	Wells
59	Birchwood Mobile Home Park	42.	Wells 3.9 mi
60	Brooks Mobile Home Park	25.	Wells 3.8 mi
61	~~Cannons Trailer Park~~	16.	Wells
62	Canterbury Garden Apartments	600.	Wells
63	Cedar Hollow Mobile Home Park	90.	Wells
64	Cedar Lane Mobile Home Park #2	28.	Wells 1.5 mi
65	Charlotte Grove Mobile Trailer Park	110.	Wells
66	Chateau Hyde Park Home for Adults	120.	Wells
67	Chelsea Ridge Apartments	1800.	Wells
68	Clove Branch Apartments	19.	Wells
69	Colonial Maples Trailer Park	30.	Wells
70	Cooper Road Trailer Park	35.	Wells
71	Cove View Apartments	48.	Wells
72	Daytop Village	70.	Wells
73	Dutch Garden Apartments	450.	Wells
74	Dutchess Trailer Park	30.	Wells
75	East Mountain Trailer Park	28.	Wells 2.2 mi
76	Eleanor Roosevelt	200.	Wells
77	Elliott Apartments	36.	Wells
78	Ennis Mobile Home Park	92.	Wells
79	Feller Trailer Court	60.	Wells
80	Fieldside Apartments	50.	Wells
81	Fishkill Park Apartments	240.	Wells
82	Frantoni Villas	50.	Wells
83	Gerhard P Stoetzel	30.	Wells
84	Green Haven Correctional Facility	NA.	Reservoir
85	Green Meadow Trailer Court	44.	Wells
86	Greer School	300.	Wells
87	~~Harlem Valley Psychiatric Center~~	1200.	~~Swamp River~~ 2.9 mi
88	Haviland Apartments	100.	Wells
89	Haviland Mobile Home Park #1	44.	Wells
90	Haviland Mobile Home Park #2	29.	Wells

ID NO	C
	Non-Munic
91	Hi V
92	Hick
93	Hidd
94	Hidd
95	High
96	Hoff
97	Huds
98	Huds
99	Hyde
100	Hyde
101	Kent
102	Komm
103	Lake
104	Lake
105	Lake
106	Lake
107	Lamp
108	Ledo
109	Litt
110	M ar
111	Map
112	May
113	May
114	McC
115	Mob
116	Mon
117	Mou
118	Nor
119	Nor
120	Ode
121	Osb
122	Pal
123	Par
124	Par
125	Phi
126	Pin
127	Pow
128	Ram
129	Red
130	Rh
131	Rhi
132	Rob
133	Rou
134	Roy
135	Sab
136	Sa
137	Sce
138	Scr
139	Sha
140	Sha
141	Sha
142	Sir
143	Sp
144	Su
145	Su
146	Ta
147	Ta
148	Ta
149	Th
150	Un
151	Va
152	Va
153	Ve
154	Vi
155	Wa
156	Wa
157	W
158	Wi
159	Wo
160	Wo

[illegible]ION	SOURCE
1000.	Wells
1[illegible].	Wells
1[illegible].	Wells
5000.	Mt. Beacon & Melzinga Reservoirs, Wells
[illegible].	Wells
[illegible].	Wells
3[illegible].	Wells
[illegible].	Wells
900.	Wells
600.	Wells
1500.	Wells
[illegible].	Wells
[illegible].	Wells
.6[illegible].	Wells
850.	Wells
160.	Wells
1250.	Wells
[illegible]0.	Wells
[illegible]0.	Wells
[illegible]5.	Wells
900.	Wells
4000.	Crum Elbow Creek, Wells
65.	Wells
[illegible]0.	Wells (Infiltration Gallery)
[illegible]0.	Wells
[illegible]5.	Wells
1600.	Wells
250.	Wells
310.	Wells
[illegible]0.	Pawling Reservoir, Wells
[illegible]0.	Wells
[illegible]5.	Wells
30000.	Hudson River
424.	Wells
2000.	Wells
[illegible]0.	Wells
[illegible]0.	Hudson River
[illegible]0.	Wells
184.	Wells
110.	Wells
300.	Wells
72.	Wells (Infiltration Gallery)
72.	Indian Kill Reservoir, Wells
85.	Wells
250.	Wells
700.	Wells
713.	Wells
[illegible]80.	Wells
[illegible]00.	Wells
[illegible]00.	Wells
126.	Wells
375.	Wells
40.	Wells
50.	Wells
72.	Wells
NA.	Sawkill Creek
26.	Wells
137.	Wells
42.	Wells
25.	Wells
16.	Wells
600.	Wells
90.	Wells
28.	Wells
rk 110.	Wells
120.	Wells
1800.	Wells
19.	Wells
30.	Wells
35.	Wells
48.	Wells
70.	Wells
450.	Wells
30.	Wells
28.	Wells
200.	Wells
36.	Wells
92.	Wells
60.	Wells
50.	Wells
240.	Wells
50.	Wells
30.	Wells
NA.	Reservoir
44.	Wells
300.	Wells
1200.	Swamp River
100.	Wells
44.	Wells
29.	Wells

ID NO	COMMUNITY WATER SYSTEM	POPULATION	SOURCE
	Non-Municipal Community		
91	Hi Vu.	50.	Wells
92	Hickory Hill Mobile Home Park.	250.	Wells
93	Hidden Hollow Apartments.	850.	Wells 3.0
94	Hidden Valley Mobile Court.	30.	Wells
95	High Meadows Park Inc.	196.	Wells
96	Hoffman Trailer Park.	26.	Hudson River
97	Hudson River Psychiatric Center.	2000.	Wells
98	Hudson View Water Works.	1800.	Wells
99	Hyde Park Mobile Manor Estates.	NA.	Wells
100	Hyde Park Terrace Apartments.	70.	Wells
101	Kent Hollow Apartments.	24.	Wells
102	Kommel Trailer Park.	20.	Wells ? m
103	Lake Ellis Mobile Home Park.	81.	Wells
104	Lake Lodges Apartments.	24.	Wells
105	Lake Walton Park.	62.	Wells
106	Lakeview Mobile Home Park.	[illegible]	Wells
107	Lamplight Court Mobile Estates.	23.	Wells
108	Ledges Apartments.	460.	Wells
109	Little Falls Trailer Park.	163.	Wells
110	M and D Mobile Home Park.	108.	Wells
111	Maple Lane Trailer Park.	150.	Wells
112	May Lane Mobile Park.	30.	Wells
113	Maynards Mobile Manor.	101.	Wells
114	McCartha's Trailer Park.	42.	Wells
115	Mobile Home Gardens.	30.	Wells
116	Montclair Townhouse Apartments.	660.	Wells
117	Mountain View Mobile Estates.	55.	Wells
118	Northeastern Conference Nursing Home.	120.	Wells
119	Northern Dutchess Mobile Home Park.	31.	Wells
120	Odells Trailer Park.	19.	Wells
121	Osborne Trailer Park.	15.	Wells
122	Palmer Apartments.	27.	Wells
123	Parkway Apartments.	16.	Wells
124	Partridge Hill Apartments	150.	Wells
125	Phillips Trailer Park.	45.	Wells
126	Pine Grove Mobile Home Park.	39.	Wells
127	Powell Road Mobile Park.	115.	Wells 3.5
128	Ramsey's Trailer Park.	28.	Wells
129	Red Church Trailer Park.	12.	Wells
130	Rhinebeck Country Village.	100.	Wells
131	Rhinebeck Mobile Court.	120.	Wells
132	Roberts Running Creek Trailer Park.	88.	Wells
133	Route 82 Trailer Park.	26.	Wells
134	Royal Crest Apartments.	158.	Wells
135	Sabo Trailer Park.	45.	Wells
136	Saith Mobile Home Park.	26.	Wells
137	Scenic Apartments.	432.	Wells
138	Scenic View Mobile Home Park.	27.	Wells
139	Shady Acres Trailer Park.	26.	Wells 3.4
140	Shady Homes Trailer Park.	42.	Wells
141	Shady Lane Trailer Park.	13.	Wells
142	Simpson Mobile Home Site.	27.	Wells
143	Springhill Mobile Home Park.	NA.	Wells
144	Sunset Farms Mobile Home Park.	35.	Wells
145	Sunset Knolls.	50.	Wells
146	Taconic Motor Lodge.	22.	Wells
147	Tally Ho Mobile Estates.	NA.	Wells
148	Tai Apartments.	14.	Wells
149	The Lodge at Rhinebeck.	NA.	Wells
150	Unification Theological Church.	150.	Wells
151	Val Kill Park East.	72.	Wells
152	Valley Forge Mobile Home Park.	60.	Wells
153	Venture Lake Estates.	44.	Wells
154	Village Crest Apartments.	600.	Wells
155	Wappingers Falls Trailer Park.	50.	Wells
156	Wassaic Developmental Center.	2300.	Wells
157	Willow Tree Park.	30.	Wells 3.4 m
158	Wingdale Village Park.	72.	Wells
159	Woodcrest Manor Adult Home.	NA.	Wells
160	Woodfield Apartments.	7.	Wells

REFERENCE 6

Reference 6 p. 1 of 6

DUTCHESS COUNTY DEPARTMENT OF HEALTH

RECORD MEMO

Date 11/1/68

To: Mr. Senaluk

From: D. Groff

Subject: Deep Test Holes - Proposed Landfill - Vincent Property - T. Dover

I observed the digging of deep test holes at the above property for the purpose of establishing a sanitary landfill. All holes were dug by Seymour Green, Hwy Supt. T. Dover. The results were as follows:

Hole #1 - Depth 6½' - 1' - sand + blue clay
5½' sand with some loame
Water at 2½'

Hole #1 was dug in excavated area adjacent to access road

Hole #2 - Depth 5' 8" topsoil
1' blue clay sandy loam mixture
3'8" sandy loam - small amount of clay
Water at 5'

Hole #3 - Depth 8' - 8" topsoil
1' blue clay + sand
5' sandy loam - small amount of clay
Water + rock at 8'

D. C. San 23

Reference 6
p. 2 of 6

DUTCHESS COUNTY DEPARTMENT OF HEALTH

RECORD MEMO

Date 11/1/68

To: Mr. Sinalick

From: D. Goff

Subjedt: Deep Test Holes - Proposed Landfill - Vincent Property - T. Dover

Hole # 4 - Depth 8' - 8" Topsoil
6" sandy clay
5' sandy loam - small amount of clay
Rock at 8'
No Water

Hole # 5 - Depth 7' 1' Topsoil
1' clay-loam
5' sandy loam - small amount of clay
Rock & Water at 7'

Holes # 2, 3, 4 were dug in low area which is moist & spongy. There is also a small swamp area.

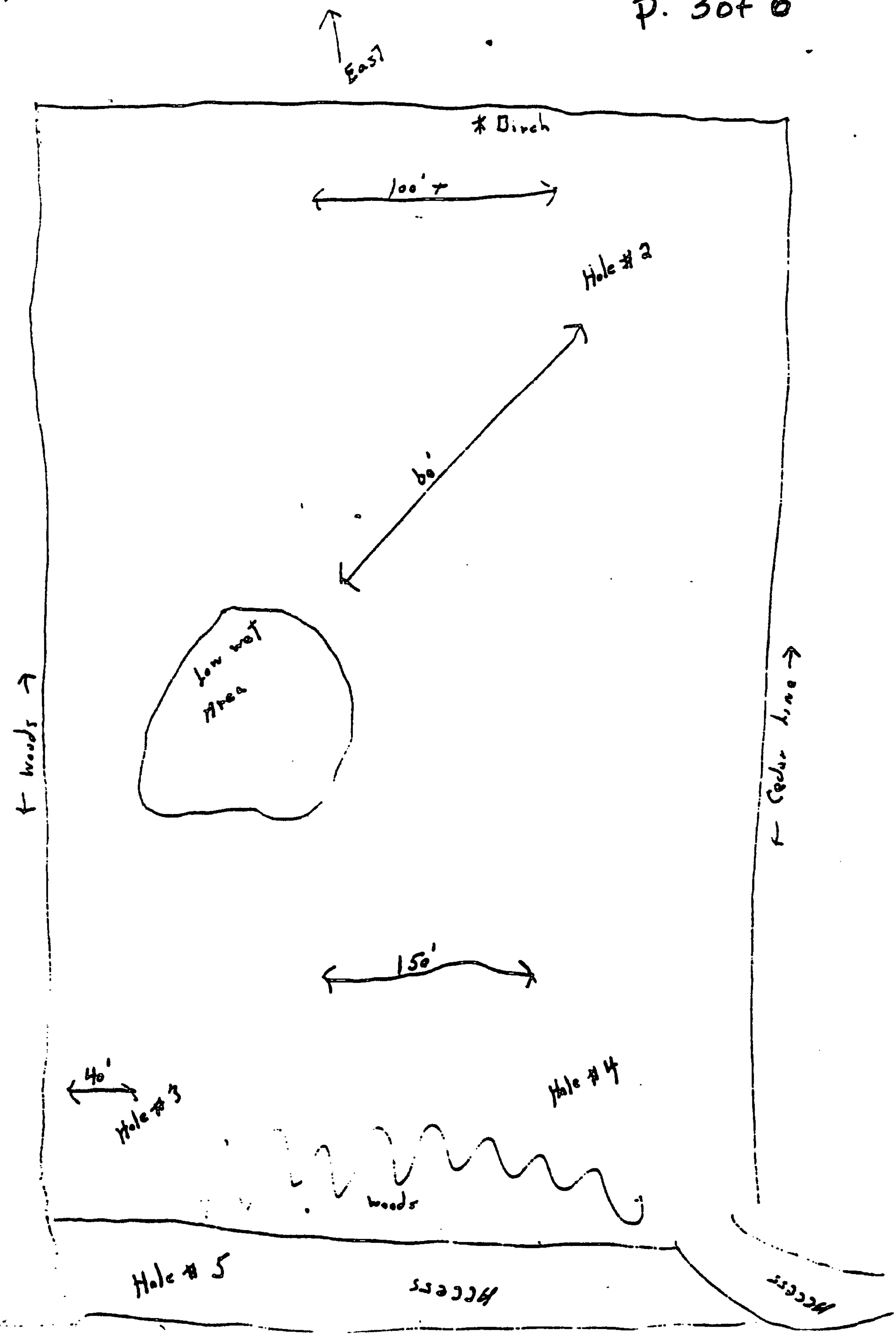
Hole # 5 was dug in higher area west of low area.

Attached is rough sketch of area with approximate location of test holes.

DG

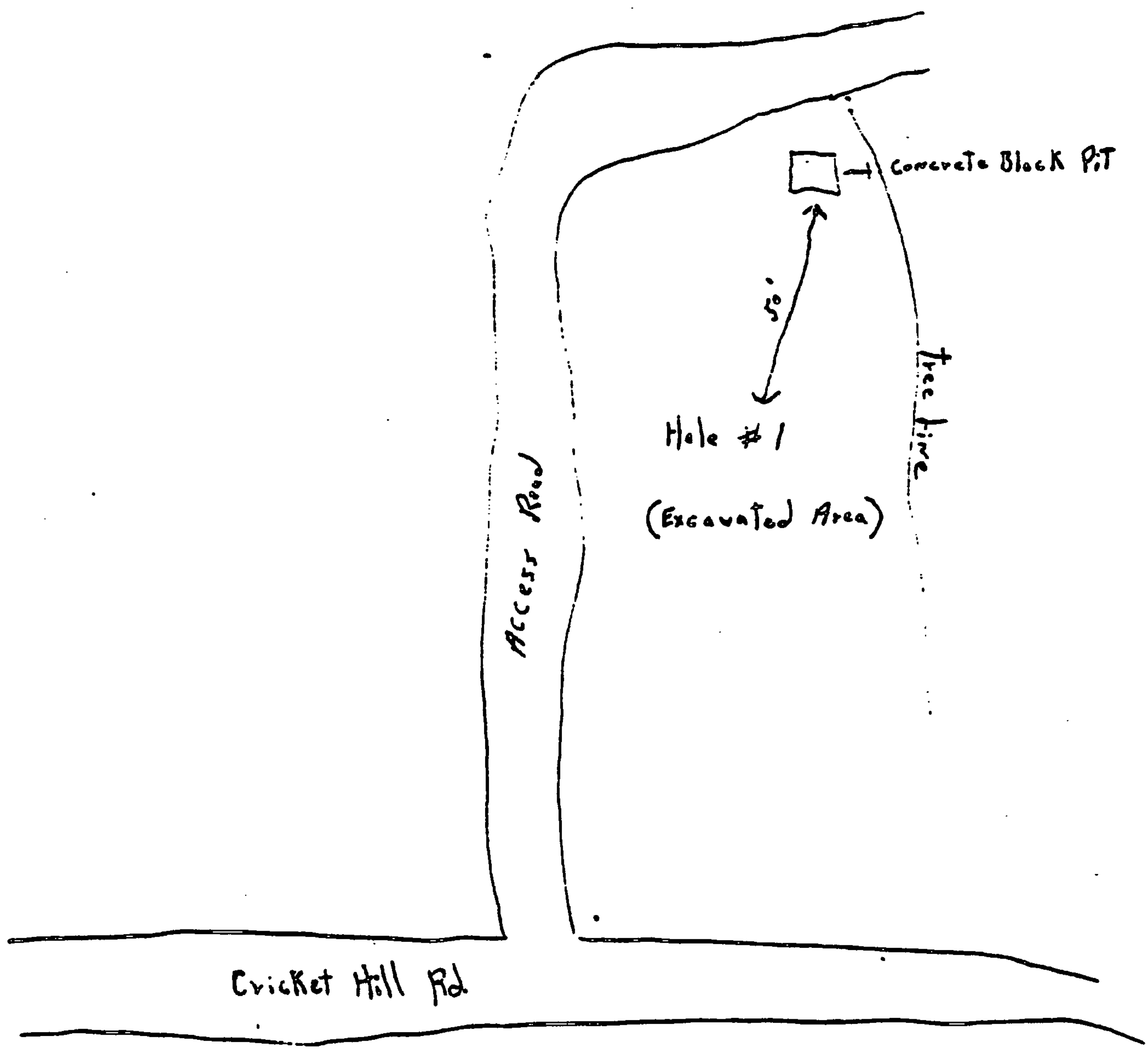
Test Holes - Proposed Landfill - [illegible] Property - J. [illegible]

Reference 116



Test Pit Holes - Proposed Landfill - Vincent Property - T. Warren 11/1/08

Reference 6



Reference 6
p. 5 of 6

CASE SUMMARY REPORT

Town of Dover Refuse Disposal Site (Cricket Hill)

7/11/73 - Inspection by E. Adams indicates following violations:

19.2(1) - Charred material evident, therefore, indicating open burning.

19.2(2) - Leachate emanating from disposal site.

19.2(3) - Dumping of refuse done without supervision.

19.2(4) - Refuse not compacted and covered daily. Completed areas not properly compacted and covered with 2' of cover material.

19.2(5) - Effective means not taken to control flies, rodents and insects.

19.2(7) - Salvaging of refuse creating a problem.

Investigations at this site were done by David Ruff, Associate Sanitarian, and Ellis Adams, Waste Management Specialist.

This site has been closed to public. Dumping is still taking place without any supervision or attempt to take care of that which has been dumped. The site has not been properly completed. The site is owned by Walter Vincent, Dover Plains, New York, and was leased to the Town of Dover.

DUTCHESS COUNTY HEALTH DEPARTMENT

MEMORANDUM

TO: File Memo

FROM: D. T. Ruff

SUBJECT: Town of Dover Refuse Disposal Site- Crickett Hill

DATE: August 7, 1974

On July 30, 1974 at approximately 9:45 A.M. I conducted an inspection at the above noted facility.

This area has been closed for a considerable period of time and the disposal of refuse is not permitted.

Along the entrance road in the area that was used for disposal of bulky waste, a problem still exists. There.is a tremendously large area where bulky wastes had been deposited and still remains. The type of waste includes various type of metal products, mattresses, car parts and bodies, tires, wood and miscellaneous rubbish.

The main body of the site has not been properly completed or seeded. There is a tremendous amount of erosion which exists and which has uncovered refuse. There is still a slight bit of leachate entering the stream and undoubtedly will get worse because of the failure of the town to properly compact and seed the side slope areas. The large amounts of clay areas used on the side hill areas has also eroded into the stream.

I checked the stream where it crosses Cricket Hill Road and could not observe any problems associated with leachate at the disposal site.

dtr/lb

DC: ADM 7

REFERENCE 7

STATE OF NEW YORK
DEPARTMENT OF HEALTH

REFERENCE # 7
PAGE 1 OF 28

Corning Tower   The Governor Nelson A. Rockefeller Empire State Plaza   Albany, New York 12237

23

David Axelrod, M.D.
Commissioner

OFFICE OF PUBLIC HEALTH

Linda A. Randolph, M.D., M.P.H.
Director

William F. Leavy
Executive Deputy Director

314066

January 11, 1991

Mr. Earl Barcomb
Bureau of Hazardous Site Control
NYS Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233

RE: Dover Landfill ID #314066
Harlem Valley Psychiatric Center
#ID 314031,
(T) Dover, Dutchess Co.

Dear Mr. Barcomb:

Attached are results for residential wells located in the vicinity of the Dover Landfill (314066) and the Harlem Valley Psychiatric Center landfill (314031). The samples were collected on September 10, 1990 by the Dutchess County Health Department.

If there are any questions please contact either John Olm or myself at 518-458-6306.

Sincerely,

Kim L. Mann
Program Research Specialist III
Bureau of Environmental Exposure Investigation

10110235

Attachment

cc: R. Tramontano wo/att
S. Bates wo/att
J. Olm wo/att
P. Smith - Capital Reg. wo/att
D. Ruff - DCHD wo/att
R. Pergardia - DEC Reg. 3

Keith
~~Beg~~ Read & discuss
E
1/23

0398 NEW Y^RK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

REFERENCE # 7

PAGE 2 OF 28

 RESULTS OF EXAMINATION ~~FINAL REPORT~~

SAMPLE ID: 901002382 SAMPLE RECEIVED: 90/10/12/11 CHARGE: 5.00
PROGRAM: 110: STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 1353
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LATITUDE: ° LONGITUDE: ° Z DIRECTION:
LOCATION: DOVER LANDFILL SITE ID#314066
DESCRIPTION: D. CALLAHAN RES RR #1 BOX 58 WINGDALE NY 12590 SOFT KIT
REPORTING LAB: 10: LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-001: SAFE DRINKING WATER ACT - METALS ONLY
SAMPLE TYPE: 115: WELL SAMPLE
TIME OF SAMPLING: 90/10/10 10:40 DATE PRINTED: 90/11/14

ANALYSIS: ICP-1 ICP GROUPING 1

PARAMETER	RESULT
MERCURY	< 0.2 MCG/L
ARSENIC	< 10. MCG/L
SELENIUM	< 5. MCG/L
LEAD	< 10. MCG/L
BERYLLIUM	< 1. MCG/L
SILVER	< 10. MCG/L
BARIUM	< 5. MCG/L
CADMIUM	< 5. MCG/L
COBALT	< 5. MCG/L
CHROMIUM	< 5. MCG/L
COPPER	27. MCG/L
IRON	23. MCG/L
MANGANESE	< 5. MCG/L
NICKEL	< 5. MCG/L
STRONTIUM	< 50. MCG/L
TITANIUM	< 5. MCG/L
VANADIUM	< 5. MCG/L
ZINC	< 10. MCG/L
MOLYBDENUM	< 20. MCG/L
ANTIMONY	< 80. MCG/L
TIN	< 50. MCG/L
THALLIUM	< 80. MCG/L
ALUMINUM	< 100. MCG/L
CALCIUM	< 1. MG/L
POTASSIUM	< 1. MG/L
MAGNESIUM	< 1. MG/L
~~SODIUM~~	~~120. MG/L~~

**** END OF REPORT ****

COPIES SENT TO: CO(2), RO(0), LPHE(3), FED( ), INFO-P( ), INFO-L( )

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH SUBMITTED BY: CARTER
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

0396 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH REFERENCE # 7 27

PAGE 3 OF 28 FINAL REPORT

PAGE 1 RESULTS OF EXAMINATION

SAMPLE ID: 903508 SAMPLE RECEIVED:90/10/12/ CHARGE: 35.50
PROGRAM: 110:STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:1353
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: DOVER LANDFILL SITE ID #314066
DESCRIPTION:D.CALLAHAN RES., RR #1 BOX 58, WINGDALE,NY SOFTENED,KIT A
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: AQUEOUS-1:VOLATILES,KETONES,PESTICIDES,PCB'S,PRIORITY POLLUTANTS
SAMPLE TYPE: 115:WELL SAMPLE
TIME OF SAMPLING: 90/10/10 10:40 DATE PRINTED:90/11/27

ANALYSIS: VHO5021 VOLATILE HALOGENATED ORGANICS (DES 310-29)
DATE REPORTED: 90/11/02 REPORT MAILED OUT

PARAMETER	RESULT
CHLOROMETHANE	< 0.5 MCG/L
BROMOMETHANE	< 0.5 MCG/L
VINYL CHLORIDE	< 0.5 MCG/L
DICHLORODIFLUOROMETHANE (FREON-12)	< 0.5 MCG/L
CHLOROETHANE	< 0.5 MCG/L
METHYLENE CHLORIDE (DICHLOROMETHANE)	< 0.5 MCG/L
TRICHLOROFLUOROMETHANE (FREON-11)	< 0.5 MCG/L
1,1-DICHLOROETHENE	< 0.5 MCG/L
1,1-DICHLOROETHANE	< 0.5 MCG/L
TRANS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CIS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CHLOROFORM	< 0.5 MCG/L
1,2-DICHLOROETHANE	< 0.5 MCG/L
DIBROMOMETHANE	< 0.5 MCG/L
1,1,1-TRICHLOROETHANE	< 0.5 MCG/L
CARBON TETRACHLORIDE	< 0.5 MCG/L
BROMODICHLOROMETHANE	< 0.5 MCG/L
2,3-DICHLOROPROPENE	< 0.5 MCG/L
1,2-DICHLOROPROPANE	< 0.5 MCG/L
CIS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
TRICHLOROETHENE	< 0.5 MCG/L
1,3-DICHLOROPROPANE	< 0.5 MCG/L
DIBROMOCHLOROMETHANE	< 0.5 MCG/L
TRANS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
1,1,2-TRICHLOROETHANE	< 0.5 MCG/L
1,2-DIBROMOETHANE (EDB)	< 0.5 MCG/L
2-CHLOROETHYLVINYL ETHER	< 0.5 MCG/L
BROMOFORM	< 0.5 MCG/L
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L
1,2,3-TRICHLOROPROPANE	< 0.5 MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(2), RO(0), LPHE(3), FED( ), INFO-P( ), INFO-L( )

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY:JB CARTER

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903508 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 10:40 DATE PRINTED: 90/11/27

PARAMETER	RESULT
1,1,2,2-TETRACHLOROETHANE	< 0.5 MCG/L
TETRACHLOROETHENE	< 0.5 MCG/L
PENTACHLOROETHANE	< 0.5 MCG/L
1-CHLOROCYCLOHEXENE-1	< 0.5 MCG/L
CHLOROBENZENE	< 0.5 MCG/L
BIS(2-CHLOROETHYL)ETHER	< 0.5 MCG/L
1,2-DIBROMO-3-CHLOROPROPANE	< 0.5 MCG/L
BROMOBENZENE	< 0.5 MCG/L
O-CHLOROTOLUENE	< 0.5 MCG/L
BIS(2-CHLOROISOPROPYL)ETHER	< 0.5 MCG/L
1,3-DICHLOROBENZENE	< 0.5 MCG/L
1,2-DICHLOROBENZENE	< 0.5 MCG/L
1,4-DICHLOROBENZENE	< 0.5 MCG/L

ANALYSIS: 5031 AROMATIC PURGEABLES, EPA METHOD 503.1 (DES 310-22)
DATE REPORTED: 90/10/23 REPORT MAILED OUT

PARAMETER	RESULT
BENZENE	< 0.5 MCG/L
TOLUENE	< 0.5 MCG/L
ETHYLBENZENE	< 0.5 MCG/L
P-XYLENE	< 0.5 MCG/L
M-XYLENE	< 0.5 MCG/L
O-XYLENE	< 0.5 MCG/L
ISOPROPYLBENZENE (CUMENE)	< 0.5 MCG/L
STYRENE	< 0.5 MCG/L
P-BROMOFLUOROBENZENE	< 0.5 MCG/L
N-PROPYLBENZENE	< 0.5 MCG/L
TERT-BUTYLBENZENE	< 0.5 MCG/L
P-CHLOROTOLUENE	< 0.5 MCG/L
M-CHLOROTOLUENE	< 0.5 MCG/L
1,3,5-TRIMETHYLBENZENE	< 0.5 MCG/L
1,2,4-TRIMETHYLBENZENE	< 0.5 MCG/L
4-ISOPROPYLTOLUENE (P-CYMENE)	< 0.5 MCG/L
CYCLOPROPYLBENZENE	< 0.5 MCG/L
SEC-BUTYLBENZENE	< 0.5 MCG/L
N-BUTYLBENZENE	< 0.5 MCG/L
2,3-BENZOFURAN	< 0.5 MCG/L
HEXACHLOROBUTADIENE (C-46)	< 0.5 MCG/L
1,2,4-TRICHLOROBENZENE	< 0.5 MCG/L
NAPHTHALENE	< 0.5 MCG/L
1,2,3-TRICHLOROBENZENE	< 0.5 MCG/L
PH OF AROMATIC ALIQUOT	3

**** CONTINUED ON NEXT PAGE ****

NEW Y°RK STATE DEPARTMENT OF HEALTH
WADSWORTH ENTER FOR LABORATORIES AND ESEARCH

3 RESULTS OF EXAMINATION FINAL REPORT

PLE ID: 903508 SAMPLE RECEIVED:90/10/12/ CHARGE: 35.50
ITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
TION: DOVER LANDFILL SITE ID #314066
OF SAMPLING: 90/10/10 10:40 DATE PRINTED:90/11/27

YSIS: KET KETONES - PURGE & TRAP TECHNIQUE (DES 310-25)
DATE REPORTED: 90/11/08 REPORT MAILED OUT

----------PARAMETER------------	----------RESULT----------
UTANONE (METHYL ETHYL KETONE)	< 10. MCG/L
METHYL-2-PENTANONE (MIBK)	< 10. MCG/L
TONE	< 10. MCG/L
HYL TERT BUTYL ETHER	< 10. MCG/L

LYSIS: XPEST-PCB ORGANOCHLORINE PESTICIDES & PCB'S (DES310-2)
DATE REPORTED: 90/11/20 REPORT MAILED OUT

----------PARAMETER------------	----------RESULT----------
,ALPHA	< 0.04 MCG/L
,BETA	< 0.04 MCG/L
H,GAMMA (LINDANE)	< 0.04 MCG/L
,DELTA	< 0.04 MCG/L
TACHLOR	< 0.05 MCG/L
RIN	< 0.02 MCG/L
PTACHLOR EPOXIDE	< 0.05 MCG/L
DSULFAN I	< 0.05 MCG/L
-DDE	< 0.05 MCG/L
IELDRIN	< 0.02 MCG/L
RIN	< 0.02 MCG/L
-DDD	< 0.05 MCG/L
DOSULFAN II	< 0.05 MCG/L
DRIN ALDEHYDE	< 0.02 MCG/L
DSULFAN SULFATE	< 0.05 MCG/L
-DDT	< 0.05 MCG/L
THOXYCHLOR	< 0.5 MCG/L
APHENE	< 1.0 MCG/L
ORDANE	< 0.1 MCG/L
IREX	< 0.05 MCG/L
,AROCLOR 1221	< 0.05 MCG/L
,AROCLOR 1016/1242	< 0.05 MCG/L
CB,AROCLOR 1248	< 0.05 MCG/L
CB,AROCLOR 1254	< 0.05 MCG/L
,AROCLOR 1260	< 0.05 MCG/L

ALYSIS: GC-FID-A PRIORITY POLLUTANTS*ACIDS*GC/FID RESULTS
DATE PRINTED: 90/11/27 FINAL REPORT

----------PARAMETER------------	----------RESULT----------
NOL	< 10. MCG/L
-LOROPHENOL	< 10. MCG/L
-NITROPHENOL	< 10. MCG/L
,4-DIMETHYLPHENOL	< 10. MCG/L
-DICHLOROPHENOL	< 10. MCG/L
-HLORO-3-METHYLPHENOL	< 10. MCG/L

**** CONTINUED ON NEXT PAGE ****

 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 903508 SAMPLE RECEIVED:90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 10:40 DATE PRINTED:90/11/27

PARAMETER	RESULT
2,4,6-TRICHLOROPHENOL	< 10. MCG/L
2,4,5-TRICHLOROPHENOL	< 10. MCG/L
2,4-DINITROPHENOL	< 10. MCG/L
4-NITROPHENOL	< 10. MCG/L
2-METHYL-4,6-DINITROPHENOL	< 10. MCG/L
PENTACHLOROPHENOL	< 10. MCG/L

ANALYSIS: GC-FID-BN PRIORITY POLLUTANTS*BASE/NEUTRALS*GC/FID RESULTS
DATE PRINTED: 90/11/27 FINAL REPORT

PARAMETER	RESULT
N-NITROSODI-N-PROPYLAMINE	< 10. MCG/L
HEXACHLOROETHANE	< 10. MCG/L
NITROBENZENE	< 10. MCG/L
ISOPHORONE	< 10. MCG/L
BIS(2-CHLOROETHOXY)METHANE	< 10. MCG/L
HEXACHLOROCYCLOPENTADIENE (C-56)	< 10. MCG/L
2-CHLORONAPHTHALENE	< 10. MCG/L
2,6-DINITROTOLUENE	< 10. MCG/L
ACENAPHTHYLENE	< 10. MCG/L
DIMETHYLPHTHALATE	< 10. MCG/L
ACENAPHTHENE	< 10. MCG/L
2,4-DINITROTOLUENE	< 10. MCG/L
DIETHYLPHTHALATE	< 10. MCG/L
FLUORENE	< 10. MCG/L
N-NITROSODIPHENYLAMINE	< 10. MCG/L
1,2-DIPHENYLHYDRAZINE	< 10. MCG/L
4-BROMOPHENYL PHENYL ETHER	< 10. MCG/L
HEXACHLOROBENZENE	< 10. MCG/L
PHENANTHRENE	< 10. MCG/L
ANTHRACENE	< 10. MCG/L
DI-N-BUTYL PHTHALATE	< 10. MCG/L
FLUORANTHENE	< 10. MCG/L
PYRENE	< 10. MCG/L
BENZIDINE	< 30. MCG/L
BUTYL BENZYL PHTHALATE	< 30. MCG/L
BENZO(A)ANTHRACENE	< 10. MCG/L
3,3'-DICHLOROBENZIDINE	< 10. MCG/L
CHRYSENE	< 10. MCG/L
BIS(2-ETHYLHEXYL)PHTHALATE	< 30. MCG/L
DI-N-OCTYL PHTHALATE	< 30. MCG/L
BENZO(B)FLUORANTHENE	< 20. MCG/L
BENZO(K)FLUORANTHENE	< 20. MCG/L
BENZO(A)PYRENE	< 20. MCG/L
INDENO(1,2,3-CD)PYRENE	< 20. MCG/L
DIBENZO(AH)ANTHRACENE	< 20. MCG/L
BENZO(GHI)PERYLENE	< 20. MCG/L

**** END OF REPORT ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

REFERENCE # 7
PAGE 7 OF 28

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 901002379 SAMPLE RECEIVED:90/10/12/11 CHARGE: 5.00
PROGRAM: 110:STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:1353
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: DOVER LANDFILL SITE ID#314066
DESCRIPTION:WM. RAMSEY RES PLEASANT RIDGE RD WINGDALE NY 12590 KITCHEN
REPORTING LAB: 10:LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-001:SAFE DRINKING WATER ACT - METALS ONLY
SAMPLE TYPE: 115:WELL SAMPLE
TIME OF SAMPLING: 90/10/10 11:00 DATE PRINTED:90/11/14

ANALYSIS: ICP-1 ICP GROUPING 1

PARAMETER	RESULT
MERCURY	< 0.2 MCG/L
ARSENIC	< 10. MCG/L
SELENIUM	< 5. MCG/L
LEAD	< 10. MCG/L
BERYLLIUM	< 1. MCG/L
SILVER	< 10. MCG/L
BARIUM	15. MCG/L
CADMIUM	< 5. MCG/L
COBALT	< 5. MCG/L
CHROMIUM	< 5. MCG/L
COPPER	13. MCG/L
IRON	< 10. MCG/L
MANGANESE	< 5. MCG/L
NICKEL	< 5. MCG/L
STRONTIUM	75. MCG/L
TITANIUM	< 5. MCG/L
VANADIUM	< 5. MCG/L
ZINC	111. MCG/L
MOLYBDENUM	< 20. MCG/L
ANTIMONY	< 80. MCG/L
TIN	< 50. MCG/L
THALLIUM	< 80. MCG/L
ALUMINUM	< 100. MCG/L
CALCIUM	77.5 MG/L
POTASSIUM	4.9 MG/L
MAGNESIUM	35.3 MG/L
~~SODIUM~~	~~50.0 MG/L~~

**** END OF REPORT ****

COPIES SENT TO: CO(2), RO(0), LPHE(3), FED( ), INFO-P( ), INFO-L( )

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY:CARTER

0404 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

REFERENCE # 7

PAGE 8 OF 28

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 903509 SAMPLE RECEIVED:90/10/12/ CHARGE: 35.50
PROGRAM: 110:STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:1353
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: DOVER LANDFILL SITE ID #314066
DESCRIPTION:WM RAMSEY RES., PLEASANT RIDGE RD., WINGDALE,NY KITCHEN B
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: AQUEOUS-1:VOLATILES,KETONES,PESTICIDES,PCB'S,PRIORITY POLLUTANTS
SAMPLE TYPE: 115:WELL SAMPLE
TIME OF SAMPLING: 90/10/10 11: DATE PRINTED:90/11/27

ANALYSIS: VH05021 VOLATILE HALOGENATED ORGANICS (DES 310-29)
DATE REPORTED: 90/11/02 REPORT MAILED OUT

PARAMETER	RESULT
CHLOROMETHANE	< 0.5 MCG/L
BROMOMETHANE	< 0.5 MCG/L
VINYL CHLORIDE	< 0.5 MCG/L
DICHLORODIFLUOROMETHANE (FREON-12)	< 0.5 MCG/L
CHLOROETHANE	< 0.5 MCG/L
METHYLENE CHLORIDE (DICHLOROMETHANE)	< 0.5 MCG/L
TRICHLOROFLUOROMETHANE (FREON-11)	< 0.5 MCG/L
1,1-DICHLOROETHENE	< 0.5 MCG/L
1,1-DICHLOROETHANE	< 0.5 MCG/L
TRANS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CIS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CHLOROFORM	< 0.5 MCG/L
1,2-DICHLOROETHANE	< 0.5 MCG/L
DIBROMOMETHANE	< 0.5 MCG/L
1,1,1-TRICHLOROETHANE	< 0.5 MCG/L
CARBON TETRACHLORIDE	< 0.5 MCG/L
BROMODICHLOROMETHANE	< 0.5 MCG/L
2,3-DICHLOROPROPENE	< 0.5 MCG/L
1,2-DICHLOROPROPANE	< 0.5 MCG/L
CIS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
TRICHLOROETHENE	< 0.5 MCG/L
1,3-DICHLOROPROPANE	< 0.5 MCG/L
DIBROMOCHLOROMETHANE	< 0.5 MCG/L
TRANS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
1,1,2-TRICHLOROETHANE	< 0.5 MCG/L
1,2-DIBROMOETHANE (EDB)	< 0.5 MCG/L
2-CHLOROETHYLVINYL ETHER	< 0.5 MCG/L
BROMOFORM	< 0.5 MCG/L
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L
1,2,3-TRICHLOROPROPANE	< 0.5 MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(2), RO(0), LPHE(3), FED( ), INFO-P( ), INFO-L( )

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY:JB CARTER

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903509 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11: DATE PRINTED: 90/11/27

PARAMETER	RESULT
1,1,2,2-TETRACHLOROETHANE	< 0.5 MCG/L
TETRACHLOROETHENE	< 0.5 MCG/L
PENTACHLOROETHANE	< 0.5 MCG/L
1-CHLOROCYCLOHEXENE-1	< 0.5 MCG/L
CHLOROBENZENE	< 0.5 MCG/L
BIS(2-CHLOROETHYL)ETHER	< 0.5 MCG/L
1,2-DIBROMO-3-CHLOROPROPANE	< 0.5 MCG/L
BROMOBENZENE	< 0.5 MCG/L
O-CHLOROTOLUENE	< 0.5 MCG/L
BIS(2-CHLOROISOPROPYL)ETHER	< 0.5 MCG/L
1,3-DICHLOROBENZENE	< 0.5 MCG/L
1,2-DICHLOROBENZENE	< 0.5 MCG/L
1,4-DICHLOROBENZENE	< 0.5 MCG/L

ANALYSIS: 5031 AROMATIC PURGEABLES, EPA METHOD 503.1 (DES 310-22)
DATE REPORTED: 90/10/23 REPORT MAILED OUT

PARAMETER	RESULT
BENZENE	< 0.5 MCG/L
TOLUENE	< 0.5 MCG/L
ETHYLBENZENE	< 0.5 MCG/L
P-XYLENE	< 0.5 MCG/L
M-XYLENE	< 0.5 MCG/L
O-XYLENE	< 0.5 MCG/L
ISOPROPYLBENZENE (CUMENE)	< 0.5 MCG/L
STYRENE	< 0.5 MCG/L
P-BROMOFLUOROBENZENE	< 0.5 MCG/L
N-PROPYLBENZENE	< 0.5 MCG/L
TERT-BUTYLBENZENE	< 0.5 MCG/L
P-CHLOROTOLUENE	< 0.5 MCG/L
M-CHLOROTOLUENE	< 0.5 MCG/L
1,3,5-TRIMETHYLBENZENE	< 0.5 MCG/L
1,2,4-TRIMETHYLBENZENE	< 0.5 MCG/L
4-ISOPROPYLTOLUENE (P-CYMENE)	< 0.5 MCG/L
CYCLOPROPYLBENZENE	< 0.5 MCG/L
SEC-BUTYLBENZENE	< 0.5 MCG/L
N-BUTYLBENZENE	< 0.5 MCG/L
2,3-BENZOFURAN	< 0.5 MCG/L
HEXACHLOROBUTADIENE (C-46)	< 0.5 MCG/L
1,2,4-TRICHLOROBENZENE	< 0.5 MCG/L
NAPHTHALENE	< 0.5 MCG/L
1,2,3-TRICHLOROBENZENE	< 0.5 MCG/L
PH OF AROMATIC ALIQUOT	3

**** CONTINUED ON NEXT PAGE ****

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903509 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11: DATE PRINTED: 90/11/27

ANALYSIS: KET KETONES - PURGE & TRAP TECHNIQUE (DES 310-25)
DATE REPORTED: 90/11/08 REPORT MAILED OUT

PARAMETER	RESULT
2-BUTANONE (METHYL ETHYL KETONE)	< 10. MCG/L
4-METHYL-2-PENTANONE (MIBK)	< 10. MCG/L
ACETONE	< 10. MCG/L
METHYL TERT BUTYL ETHER	< 10. MCG/L

ANALYSIS: XPEST-PCB ORGANOCHLORINE PESTICIDES & PCB'S (DES310-2)
DATE REPORTED: 90/11/20 REPORT MAILED OUT

PARAMETER	RESULT
HCH, ALPHA	< 0.04 MCG/L
HCH, BETA	< 0.04 MCG/L
HCH, GAMMA (LINDANE)	< 0.04 MCG/L
HCH, DELTA	< 0.04 MCG/L
HEPTACHLOR	< 0.05 MCG/L
ALDRIN	< 0.02 MCG/L
HEPTACHLOR EPOXIDE	< 0.05 MCG/L
ENDOSULFAN I	< 0.05 MCG/L
4,4'-DDE	< 0.05 MCG/L
DIELDRIN	< 0.02 MCG/L
ENDRIN	< 0.02 MCG/L
4,4'-DDD	< 0.05 MCG/L
ENDOSULFAN II	< 0.05 MCG/L
ENDRIN ALDEHYDE	< 0.02 MCG/L
ENDOSULFAN SULFATE	< 0.05 MCG/L
4,4'-DDT	< 0.05 MCG/L
METHOXYCHLOR	< 0.5 MCG/L
TOXAPHENE	< 1.0 MCG/L
CHLORDANE	< 0.1 MCG/L
MIREX	< 0.05 MCG/L
PCB, AROCLOR 1221	< 0.05 MCG/L
PCB, AROCLOR 1016/1242	< 0.05 MCG/L
PCB, AROCLOR 1248	< 0.05 MCG/L
PCB, AROCLOR 1254	< 0.05 MCG/L
PCB, AROCLOR 1260	< 0.05 MCG/L

ANALYSIS: GC-FID-A PRIORITY POLLUTANTS*ACIDS*GC/FID RESULTS
DATE PRINTED: 90/11/27 FINAL REPORT

PARAMETER	RESULT
PHENOL	< 10. MCG/L
2-CHLOROPHENOL	< 10. MCG/L
2-NITROPHENOL	< 10. MCG/L
2,4-DIMETHYLPHENOL	< 10. MCG/L
2,4-DICHLOROPHENOL	< 10. MCG/L
4-CHLORO-3-METHYLPHENOL	< 10. MCG/L

**** CONTINUED ON NEXT PAGE ****

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903509 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11: DATE PRINTED: 90/11/27

PARAMETER	RESULT
2,4,6-TRICHLOROPHENOL	< 10. MCG/L
2,4,5-TRICHLOROPHENOL	< 10. MCG/L
2,4-DINITROPHENOL	< 10. MCG/L
4-NITROPHENOL	< 10. MCG/L
2-METHYL-4,6-DINITROPHENOL	< 10. MCG/L
PENTACHLOROPHENOL	< 10. MCG/L

ANALYSIS: GC-FID-BN PRIORITY POLLUTANTS*BASE/NEUTRALS*GC/FID RESULTS
DATE PRINTED: 90/11/27 FINAL REPORT

PARAMETER	RESULT
N-NITROSODI-N-PROPYLAMINE	< 10. MCG/L
HEXACHLOROETHANE	< 10. MCG/L
NITROBENZENE	< 10. MCG/L
ISOPHORONE	< 10. MCG/L
BIS(2-CHLOROETHOXY)METHANE	< 10. MCG/L
HEXACHLOROCYCLOPENTADIENE (C-56)	< 10. MCG/L
2-CHLORONAPHTHALENE	< 10. MCG/L
2,6-DINITROTOLUENE	< 10. MCG/L
ACENAPHTHYLENE	< 10. MCG/L
DIMETHYLPHTHALATE	< 10. MCG/L
ACENAPHTHENE	< 10. MCG/L
2,4-DINITROTOLUENE	< 10. MCG/L
DIETHYLPHTHALATE	< 10. MCG/L
FLUORENE	< 10. MCG/L
N-NITROSODIPHENYLAMINE	< 10. MCG/L
1,2-DIPHENYLHYDRAZINE	< 10. MCG/L
4-BROMOPHENYL PHENYL ETHER	< 10. MCG/L
HEXACHLOROBENZENE	< 10. MCG/L
PHENANTHRENE	< 10. MCG/L
ANTHRACENE	< 10. MCG/L
DI-N-BUTYL PHTHALATE	< 10. MCG/L
FLUORANTHENE	< 10. MCG/L
PYRENE	< 10. MCG/L
BENZIDINE	< 30. MCG/L
BUTYL BENZYL PHTHALATE	< 30. MCG/L
BENZO(A)ANTHRACENE	< 10. MCG/L
3,3'-DICHLOROBENZIDINE	< 10. MCG/L
CHRYSENE	< 10. MCG/L
BIS(2-ETHYLHEXYL)PHTHALATE	< 30. MCG/L
DI-N-OCTYL PHTHALATE	< 30. MCG/L
BENZO(B)FLUORANTHENE	< 20. MCG/L
BENZO(K)FLUORANTHENE	< 20. MCG/L
BENZO(A)PYRENE	< 20. MCG/L
INDENO(1,2,3-CD)PYRENE	< 20. MCG/L
DIBENZO(AH)ANTHRACENE	< 20. MCG/L
BENZO(GHI)PERYLENE	< 20. MCG/L

**** END OF REPORT ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH ITER FOR LABORATORIES AND SEARCH

REFERENCE # 7
PAGE 12 OF 28

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 901002378 SAMPLE RECEIVED:90/10/12/11 CHARGE: 5.00
PROGRAM: 110:STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:1353
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: DOVER LANDFILL SITE ID#314066
DESCRIPTION:G. MUNCY BOX 60 PLEASANT RIDGE RD WINGDALE NY NOT SOFTNED
REPORTING LAB: 10:LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-001:SAFE DRINKING WATER ACT - METALS ONLY
SAMPLE TYPE: 115:WELL SAMPLE
TIME OF SAMPLING: 90/10/10 11:20 DATE PRINTED:90/11/14

ANALYSIS: ICP-1 ICP GROUPING 1

PARAMETER	RESULT
MERCURY	< 0.2 MCG/L
ARSENIC	< 10. MCG/L
SELENIUM	< 5. MCG/L
LEAD	< 10. MCG/L
BERYLLIUM	< 1. MCG/L
SILVER	< 10. MCG/L
BARIUM	6. MCG/L
CADMIUM	< 5. MCG/L
COBALT	< 5. MCG/L
CHROMIUM	< 5. MCG/L
COPPER	119. MCG/L
IRON	14. MCG/L
MANGANESE	< 5. MCG/L
NICKEL	< 5. MCG/L
STRONTIUM	< 50. MCG/L
TITANIUM	< 5. MCG/L
VANADIUM	< 5. MCG/L
ZINC	85. MCG/L
MOLYBDENUM	< 20. MCG/L
ANTIMONY	< 80. MCG/L
TIN	< 50. MCG/L
THALLIUM	< 80. MCG/L
ALUMINUM	< 100. MCG/L
CALCIUM	65.5 MG/L
POTASSIUM	1.9 MG/L
MAGNESIUM	33.3 MG/L
SODIUM	1.9 MG/L

**** END OF REPORT ****

COPIES SENT TO: CO(2), RO(0), LPHE(3), FED( ), INFO-P( ), INFO-L( )

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY:CARTER

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

FINAL REPORT

RESULTS OF EXAMINATION

SAMPLE ID: 903510 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
PROGRAM: 110: STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 1353
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: DOVER LANDFILL SITE ID #314066
DESCRIPTION: G. MUNCEY BOX 60 PLEASANT RIDGE RD., WINGDALE, NOT SOFTENED
DESCRIPTION: KITCHEN C
REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: AQUEOUS-1: VOLATILES, KETONES, PESTICIDES, PCB'S, PRIORITY POLLUTAN
SAMPLE TYPE: 115: WELL SAMPLE
TIME OF SAMPLING: 90/10/10 11:20 DATE PRINTED: 90/11/27

ANALYSIS: VHO5021 VOLATILE HALOGENATED ORGANICS (DES 310-29)
DATE REPORTED: 90/11/02 REPORT MAILED OUT

PARAMETER	RESULT
CHLOROMETHANE	< 0.5 MCG/L
BROMOMETHANE	< 0.5 MCG/L
VINYL CHLORIDE	< 0.5 MCG/L
DICHLORODIFLUOROMETHANE (FREON-12)	< 0.5 MCG/L
CHLOROETHANE	< 0.5 MCG/L
METHYLENE CHLORIDE (DICHLOROMETHANE)	< 0.5 MCG/L
TRICHLOROFLUOROMETHANE (FREON-11)	< 0.5 MCG/L
1,1-DICHLOROETHENE	< 0.5 MCG/L
1,1-DICHLOROETHANE	< 0.5 MCG/L
TRANS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CIS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CHLOROFORM	< 0.5 MCG/L
1,2-DICHLOROETHANE	< 0.5 MCG/L
DIBROMOMETHANE	< 0.5 MCG/L
1,1,1-TRICHLOROETHANE	< 0.5 MCG/L
CARBON TETRACHLORIDE	< 0.5 MCG/L
BROMODICHLOROMETHANE	< 0.5 MCG/L
2,3-DICHLOROPROPENE	< 0.5 MCG/L
1,2-DICHLOROPROPANE	< 0.5 MCG/L
CIS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
TRICHLOROETHENE	< 0.5 MCG/L
1,3-DICHLOROPROPANE	< 0.5 MCG/L
DIBROMOCHLOROMETHANE	< 0.5 MCG/L
TRANS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
1,1,2-TRICHLOROETHANE	< 0.5 MCG/L
1,2-DIBROMOETHANE (EDB)	< 0.5 MCG/L
2-CHLOROETHYLVINYL ETHER	< 0.5 MCG/L
BROMOFORM	< 0.5 MCG/L
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(2), RO(0), LPHE(3), FED( ), INFO-P( ), INFO-L( )

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY: JB CARTER

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903510 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11:20 DATE PRINTED: 90/11/27

PARAMETER	RESULT
1,2,3-TRICHLOROPROPANE	< 0.5 MCG/L
1,1,2,2-TETRACHLOROETHANE	< 0.5 MCG/L
TETRACHLOROETHENE	< 0.5 MCG/L
PENTACHLOROETHANE	< 0.5 MCG/L
1-CHLOROCYCLOHEXENE-1	< 0.5 MCG/L
CHLOROBENZENE	< 0.5 MCG/L
BIS(2-CHLOROETHYL)ETHER	< 0.5 MCG/L
1,2-DIBROMO-3-CHLOROPROPANE	< 0.5 MCG/L
BROMOBENZENE	< 0.5 MCG/L
O-CHLOROTOLUENE	< 0.5 MCG/L
BIS(2-CHLOROISOPROPYL)ETHER	< 0.5 MCG/L
1,3-DICHLOROBENZENE	< 0.5 MCG/L
1,2-DICHLOROBENZENE	< 0.5 MCG/L
1,4-DICHLOROBENZENE	< 0.5 MCG/L

ANALYSIS: 5031 AROMATIC PURGEABLES, EPA METHOD 503.1 (DES 310-22)
DATE REPORTED: 90/10/23 REPORT MAILED OUT

PARAMETER	RESULT
BENZENE	< 0.5 MCG/L
TOLUENE	< 0.5 MCG/L
ETHYLBENZENE	< 0.5 MCG/L
P-XYLENE	< 0.5 MCG/L
M-XYLENE	< 0.5 MCG/L
O-XYLENE	< 0.5 MCG/L
ISOPROPYLBENZENE (CUMENE)	< 0.5 MCG/L
STYRENE	< 0.5 MCG/L
P-BROMOFLUOROBENZENE	< 0.5 MCG/L
N-PROPYLBENZENE	< 0.5 MCG/L
TERT-BUTYLBENZENE	< 0.5 MCG/L
P-CHLOROTOLUENE	< 0.5 MCG/L
M-CHLOROTOLUENE	< 0.5 MCG/L
1,3,5-TRIMETHYLBENZENE	< 0.5 MCG/L
1,2,4-TRIMETHYLBENZENE	< 0.5 MCG/L
4-ISOPROPYLTOLUENE (P-CYMENE)	< 0.5 MCG/L
CYCLOPROPYLBENZENE	< 0.5 MCG/L
SEC-BUTYLBENZENE	< 0.5 MCG/L
N-BUTYLBENZENE	< 0.5 MCG/L
2,3-BENZOFURAN	< 0.5 MCG/L
HEXACHLOROBUTADIENE (C-46)	< 0.5 MCG/L
1,2,4-TRICHLOROBENZENE	< 0.5 MCG/L
NAPHTHALENE	< 0.5 MCG/L
1,2,3-TRICHLOROBENZENE	< 0.5 MCG/L
PH OF AROMATIC ALIQUOT	3

**** CONTINUED ON NEXT PAGE ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903510 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11:20 DATE PRINTED: 90/11/27

ANALYSIS: KET KETONES - PURGE & TRAP TECHNIQUE (DES 310-25)
DATE REPORTED: 90/11/08 REPORT MAILED OUT

PARAMETER	RESULT
2-BUTANONE (METHYL ETHYL KETONE)	< 10. MCG/L
4-METHYL-2-PENTANONE (MIBK)	< 10. MCG/L
ACETONE	< 10. MCG/L
METHYL TERT BUTYL ETHER	< 10. MCG/L

ANALYSIS: XPEST-PCB ORGANOCHLORINE PESTICIDES & PCB'S (DES310-2)
DATE REPORTED: 90/11/20 REPORT MAILED OUT

PARAMETER	RESULT
HCH,ALPHA	< 0.04 MCG/L
HCH,BETA	< 0.04 MCG/L
HCH,GAMMA (LINDANE)	< 0.04 MCG/L
HCH,DELTA	< 0.04 MCG/L
HEPTACHLOR	< 0.05 MCG/L
ALDRIN	< 0.02 MCG/L
HEPTACHLOR EPOXIDE	< 0.05 MCG/L
ENDOSULFAN I	< 0.05 MCG/L
4,4'-DDE	< 0.05 MCG/L
DIELDRIN	< 0.02 MCG/L
ENDRIN	< 0.02 MCG/L
4,4'-DDD	< 0.05 MCG/L
ENDOSULFAN II	< 0.05 MCG/L
ENDRIN ALDEHYDE	< 0.02 MCG/L
ENDOSULFAN SULFATE	< 0.05 MCG/L
4,4'-DDT	< 0.05 MCG/L
METHOXYCHLOR	< 0.5 MCG/L
TOXAPHENE	< 1.0 MCG/L
CHLORDANE	< 0.1 MCG/L
MIREX	< 0.05 MCG/L
PCB,AROCLOR 1221	< 0.05 MCG/L
PCB,AROCLOR 1016/1242	< 0.05 MCG/L
PCB,AROCLOR 1248	< 0.05 MCG/L
PCB,AROCLOR 1254	< 0.05 MCG/L
PCB,AROCLOR 1260	< 0.05 MCG/L

ANALYSIS: GC-FID-A PRIORITY POLLUTANTS*ACIDS*GC/FID RESULTS
DATE PRINTED: 90/11/27 FINAL REPORT

PARAMETER	RESULT
PHENOL	< 10. MCG/L
2-CHLOROPHENOL	< 10. MCG/L
2-NITROPHENOL	< 10. MCG/L
2,4-DIMETHYLPHENOL	< 10. MCG/L
2,4-DICHLOROPHENOL	< 10. MCG/L
4-CHLORO-3-METHYLPHENOL	< 10. MCG/L

**** CONTINUED ON NEXT PAGE ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903510 SAMPLE RECEIVED:90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11:20 DATE PRINTED:90/11/27

PARAMETER	RESULT
2,4,6-TRICHLOROPHENOL	< 10. MCG/L
2,4,5-TRICHLOROPHENOL	< 10. MCG/L
2,4-DINITROPHENOL	< 10. MCG/L
4-NITROPHENOL	< 10. MCG/L
2-METHYL-4,6-DINITROPHENOL	< 10. MCG/L
PENTACHLOROPHENOL	< 10. MCG/L

ANALYSIS: GC-FID-BN PRIORITY POLLUTANTS*BASE/NEUTRALS*GC/FID RESULTS
DATE PRINTED: 90/11/27 FINAL REPORT

PARAMETER	RESULT
N-NITROSODI-N-PROPYLAMINE	< 10. MCG/L
HEXACHLOROETHANE	< 10. MCG/L
NITROBENZENE	< 10. MCG/L
ISOPHORONE	< 10. MCG/L
BIS(2-CHLOROETHOXY)METHANE	< 10. MCG/L
HEXACHLOROCYCLOPENTADIENE (C-56)	< 10. MCG/L
2-CHLORONAPHTHALENE	< 10. MCG/L
2,6-DINITROTOLUENE	< 10. MCG/L
ACENAPHTHYLENE	< 10. MCG/L
DIMETHYLPHTHALATE	< 10. MCG/L
ACENAPHTHENE	< 10. MCG/L
2,4-DINITROTOLUENE	< 10. MCG/L
DIETHYLPHTHALATE	< 10. MCG/L
FLUORENE	< 10. MCG/L
N-NITROSODIPHENYLAMINE	< 10. MCG/L
1,2-DIPHENYLHYDRAZINE	< 10. MCG/L
4-BROMOPHENYL PHENYL ETHER	< 10. MCG/L
HEXACHLOROBENZENE	< 10. MCG/L
PHENANTHRENE	< 10. MCG/L
ANTHRACENE	< 10. MCG/L
DI-N-BUTYL PHTHALATE	< 10. MCG/L
FLUORANTHENE	< 10. MCG/L
PYRENE	< 10. MCG/L
BENZIDINE	< 30. MCG/L
BUTYL BENZYL PHTHALATE	< 30. MCG/L
BENZO(A)ANTHRACENE	< 10. MCG/L
3,3'-DICHLOROBENZIDINE	< 10. MCG/L
CHRYSENE	< 10. MCG/L
BIS(2-ETHYLHEXYL)PHTHALATE	< 30. MCG/L
DI-N-OCTYL PHTHALATE	< 30. MCG/L
BENZO(B)FLUORANTHENE	< 20. MCG/L
BENZO(K)FLUORANTHENE	< 20. MCG/L
BENZO(A)PYRENE	< 20. MCG/L
INDENO(1,2,3-CD)PYRENE	< 20. MCG/L
DIBENZO(AH)ANTHRACENE	< 20. MCG/L
BENZO(GHI)PERYLENE	< 20. MCG/L

**** END OF REPORT ****

0981 NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH REFERENCE

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT(REV) PAGE OF 28

SAMPLE ID: 901002380 SAMPLE RECEIVED:90/10/12/11 CHARGE: 5.00
PROGRAM: 110:STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:1353
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: DOVER LANDFILL SITE ID#314066
DESCRIPTION:L. & R. DOYLE BX 59 PLEASANT RIDGE RD WINGDALE SOFT'D KIT
REPORTING LAB: 10:LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBAR
TEST PATTERN: 10-001:SAFE DRINKING WATER ACT - METALS ONLY
SAMPLE TYPE: 115:WELL SAMPLE
TIME OF SAMPLING: 90/10/10 11:40 DATE PRINTED:90/12/05

REVISION DATE 90/12/03, DESCRIPTION CHANGED, WAS: S. VINCI BOC 61 PLEASANT

ANALYSIS: ICP-1 ICP GROUPING 1

PARAMETER	RESULT
MERCURY	< 0.2 MCG/L
ARSENIC	< 10. MCG/L
SELENIUM	< 5. MCG/L
LEAD	< 10. MCG/L
BERYLLIUM	< 1. MCG/L
SILVER	< 10. MCG/L
BARIUM	< 5. MCG/L
CADMIUM	< 5. MCG/L
COBALT	< 5. MCG/L
CHROMIUM	< 5. MCG/L
COPPER	26. MCG/L
IRON	< 10. MCG/L
MANGANESE	< 5. MCG/L
NICKEL	< 5. MCG/L
STRONTIUM	< 50. MCG/L
TITANIUM	< 5. MCG/L
VANADIUM	< 5. MCG/L
ZINC	< 10. MCG/L
MOLYBDENUM	< 20. MCG/L
ANTIMONY	< 80. MCG/L
TIN	< 50. MCG/L
THALLIUM	< 80. MCG/L
ALUMINUM	< 100. MCG/L
CALCIUM	1.0 MG/L
POTASSIUM	0.67 MG/L
MAGNESIUM	< 1. MG/L
SODIUM	106. MG/L

**** END OF REPORT ****

COPIES SENT TO: CO(2), RO(0), LPHE(3), FED(0), INFO-P(0), INFO-L(1)

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY:CARTER

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH REFERENCE # 7

FINAL REPORT

RESULTS OF EXAMINATION

SAMPLE ID: 903511 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
PROGRAM: 110: STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 1353
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LATITUDE: . LONGITUDE: °' Z DIRECTION:
LOCATION: DOVER LANDFILL SITE ID #314066
DESCRIPTION: LORAINE AND RICHARD DOYLE, BOX 59 PLEASANT RIDGE ROAD
REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: AQUEOUS-1: VOLATILES, KETONES, PESTICIDES, PCB'S, PRIORITY POLLUTANTS
SAMPLE TYPE: 115: WELL SAMPLE
TIME OF SAMPLING: 90/10/10 11:40 DATE PRINTED: 90/11/27

ANALYSIS: VH05021 VOLATILE HALOGENATED ORGANICS (DES 310-29)
DATE REPORTED: 90/11/02 REPORT MAILED OUT

PARAMETER	RESULT
CHLOROMETHANE	< 0.5 MCG/L
BROMOMETHANE	< 0.5 MCG/L
VINYL CHLORIDE	< 0.5 MCG/L
DICHLORODIFLUOROMETHANE (FREON-12)	< 0.5 MCG/L
CHLOROETHANE	< 0.5 MCG/L
METHYLENE CHLORIDE (DICHLOROMETHANE)	< 0.5 MCG/L
TRICHLOROFLUOROMETHANE (FREON-11)	< 0.5 MCG/L
1,1-DICHLOROETHENE	< 0.5 MCG/L
1,1-DICHLOROETHANE	< 0.5 MCG/L
TRANS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CIS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CHLOROFORM	< 0.5 MCG/L
1,2-DICHLOROETHANE	< 0.5 MCG/L
DIBROMOMETHANE	< 0.5 MCG/L
1,1,1-TRICHLOROETHANE	< 0.5 MCG/L
CARBON TETRACHLORIDE	< 0.5 MCG/L
BROMODICHLOROMETHANE	< 0.5 MCG/L
2,3-DICHLOROPROPENE	< 0.5 MCG/L
1,2-DICHLOROPROPANE	< 0.5 MCG/L
CIS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
TRICHLOROETHENE	< 0.5 MCG/L
1,3-DICHLOROPROPANE	< 0.5 MCG/L
DIBROMOCHLOROMETHANE	< 0.5 MCG/L
TRANS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
1,1,2-TRICHLOROETHANE	< 0.5 MCG/L
1,2-DIBROMOETHANE (EDB)	< 0.5 MCG/L
2-CHLOROETHYLVINYL ETHER	< 0.5 MCG/L
BROMOFORM	< 0.5 MCG/L
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L
1,2,3-TRICHLOROPROPANE	< 0.5 MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(2), RO(0), LPHE(3), FED( ), INFO-P( ), INFO-L( )

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY: JB CARTER

NEW Y°RK STATE DEPARTMENT OF HEALTH
WADSWORTH ENTER FOR LABORATORIES AND(ESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903511 SAMPLE RECEIVED:90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11:40 DATE PRINTED:90/11/27

PARAMETER	RESULT
1,1,2,2-TETRACHLOROETHANE	< 0.5 MCG/L
TETRACHLOROETHENE	< 0.5 MCG/L
PENTACHLOROETHANE	< 0.5 MCG/L
1-CHLOROCYCLOHEXENE-1	< 0.5 MCG/L
CHLOROBENZENE	< 0.5 MCG/L
BIS(2-CHLOROETHYL)ETHER	< 0.5 MCG/L
1,2-DIBROMO-3-CHLOROPROPANE	< 0.5 MCG/L
BROMOBENZENE	< 0.5 MCG/L
O-CHLOROTOLUENE	< 0.5 MCG/L
BIS(2-CHLOROISOPROPYL)ETHER	< 0.5 MCG/L
1,3-DICHLOROBENZENE	< 0.5 MCG/L
1,2-DICHLOROBENZENE	< 0.5 MCG/L
1,4-DICHLOROBENZENE	< 0.5 MCG/L

ANALYSIS: 5031 AROMATIC PURGEABLES, EPA METHOD 503.1 (DES 310-22)
DATE REPORTED: 90/10/23 REPORT MAILED OUT

PARAMETER	RESULT
BENZENE	< 0.5 MCG/L
TOLUENE	< 0.5 MCG/L
ETHYLBENZENE	< 0.5 MCG/L
P-XYLENE	< 0.5 MCG/L
M-XYLENE	< 0.5 MCG/L
O-XYLENE	< 0.5 MCG/L
ISOPROPYLBENZENE (CUMENE)	< 0.5 MCG/L
STYRENE	< 0.5 MCG/L
P-BROMOFLUOROBENZENE	< 0.5 MCG/L
N-PROPYLBENZENE	< 0.5 MCG/L
TERT-BUTYLBENZENE	< 0.5 MCG/L
P-CHLOROTOLUENE	< 0.5 MCG/L
M-CHLOROTOLUENE	< 0.5 MCG/L
1,3,5-TRIMETHYLBENZENE	< 0.5 MCG/L
1,2,4-TRIMETHYLBENZENE	< 0.5 MCG/L
4-ISOPROPYLTOLUENE (P-CYMENE)	< 0.5 MCG/L
CYCLOPROPYLBENZENE	< 0.5 MCG/L
SEC-BUTYLBENZENE	< 0.5 MCG/L
N-BUTYLBENZENE	< 0.5 MCG/L
2,3-BENZOFURAN	< 0.5 MCG/L
HEXACHLOROBUTADIENE (C-46)	< 0.5 MCG/L
1,2,4-TRICHLOROBENZENE	< 0.5 MCG/L
NAPHTHALENE	< 0.5 MCG/L
1,2,3-TRICHLOROBENZENE	< 0.5 MCG/L
PH OF AROMATIC ALIQUOT	2

**** CONTINUED ON NEXT PAGE ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903511 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11:40 DATE PRINTED: 90/11/27

ANALYSIS: KET KETONES - PURGE & TRAP TECHNIQUE (DES 310-25)
DATE REPORTED: 90/11/08 REPORT MAILED OUT

PARAMETER	RESULT
2-BUTANONE (METHYL ETHYL KETONE)	< 10. MCG/L
4-METHYL-2-PENTANONE (MIBK)	< 10. MCG/L
ACETONE	< 10. MCG/L
METHYL TERT BUTYL ETHER	< 10. MCG/L

ANALYSIS: XPEST-PCB ORGANOCHLORINE PESTICIDES & PCB'S (DES310-2)
DATE REPORTED: 90/11/20 REPORT MAILED OUT

PARAMETER	RESULT
HCH, ALPHA	< 0.04 MCG/L
HCH, BETA	< 0.04 MCG/L
HCH, GAMMA (LINDANE)	< 0.04 MCG/L
HCH, DELTA	< 0.04 MCG/L
HEPTACHLOR	< 0.05 MCG/L
ALDRIN	< 0.02 MCG/L
HEPTACHLOR EPOXIDE	< 0.05 MCG/L
ENDOSULFAN I	< 0.05 MCG/L
4,4'-DDE	< 0.05 MCG/L
DIELDRIN	< 0.02 MCG/L
ENDRIN	< 0.02 MCG/L
4,4'-DDD	< 0.05 MCG/L
ENDOSULFAN II	< 0.05 MCG/L
ENDRIN ALDEHYDE	< 0.02 MCG/L
ENDOSULFAN SULFATE	< 0.05 MCG/L
4,4'-DDT	< 0.05 MCG/L
METHOXYCHLOR	< 0.5 MCG/L
TOXAPHENE	< 1.0 MCG/L
CHLORDANE	< 0.1 MCG/L
MIREX	< 0.05 MCG/L
PCB, AROCLOR 1221	< 0.05 MCG/L
PCB, AROCLOR 1016/1242	< 0.05 MCG/L
PCB, AROCLOR 1248	< 0.05 MCG/L
PCB, AROCLOR 1254	< 0.05 MCG/L
PCB, AROCLOR 1260	< 0.05 MCG/L

ANALYSIS: GC-FID-A PRIORITY POLLUTANTS*ACIDS*GC/FID RESULTS
DATE PRINTED: 90/11/27 FINAL REPORT

PARAMETER	RESULT
PHENOL	< 10. MCG/L
2-CHLOROPHENOL	< 10. MCG/L
2-NITROPHENOL	< 10. MCG/L
2,4-DIMETHYLPHENOL	< 10. MCG/L
2,4-DICHLOROPHENOL	< 10. MCG/L
4-CHLORO-3-METHYLPHENOL	< 10. MCG/L

**** CONTINUED ON NEXT PAGE ****

PAGE 4 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 903511 SAMPLE RECEIVED:90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11:40 DATE PRINTED:90/11/27

PARAMETER	RESULT
2,4,6-TRICHLOROPHENOL	< 10. MCG/L
2,4,5-TRICHLOROPHENOL	< 10. MCG/L
2,4-DINITROPHENOL	< 10. MCG/L
4-NITROPHENOL	< 10. MCG/L
2-METHYL-4,6-DINITROPHENOL	< 10. MCG/L
PENTACHLOROPHENOL	< 10. MCG/L

ANALYSIS: GC-FID-BN PRIORITY POLLUTANTS*BASE/NEUTRALS*GC/FID RESULTS
DATE PRINTED: 90/11/27 FINAL REPORT

PARAMETER	RESULT
N-NITROSODI-N-PROPYLAMINE	< 10. MCG/L
HEXACHLOROETHANE	< 10. MCG/L
NITROBENZENE	< 10. MCG/L
ISOPHORONE	< 10. MCG/L
BIS(2-CHLOROETHOXY)METHANE	< 10. MCG/L
HEXACHLOROCYCLOPENTADIENE (C-56)	< 10. MCG/L
2-CHLORONAPHTHALENE	< 10. MCG/L
2,6-DINITROTOLUENE	< 10. MCG/L
ACENAPHTHYLENE	< 10. MCG/L
DIMETHYLPHTHALATE	< 10. MCG/L
ACENAPHTHENE	< 10. MCG/L
2,4-DINITROTOLUENE	< 10. MCG/L
DIETHYLPHTHALATE	< 10. MCG/L
FLUORENE	< 10. MCG/L
N-NITROSODIPHENYLAMINE	< 10. MCG/L
1,2-DIPHENYLHYDRAZINE	< 10. MCG/L
4-BROMOPHENYL PHENYL ETHER	< 10. MCG/L
HEXACHLOROBENZENE	< 10. MCG/L
PHENANTHRENE	< 10. MCG/L
ANTHRACENE	< 10. MCG/L
DI-N-BUTYL PHTHALATE	< 10. MCG/L
FLUORANTHENE	< 10. MCG/L
PYRENE	< 10. MCG/L
BENZIDINE	< 30. MCG/L
BUTYL BENZYL PHTHALATE	< 30. MCG/L
BENZO(A)ANTHRACENE	< 10. MCG/L
3,3'-DICHLOROBENZIDINE	< 10. MCG/L
CHRYSENE	< 10. MCG/L
BIS(2-ETHYLHEXYL)PHTHALATE	< 30. MCG/L
DI-N-OCTYL PHTHALATE	< 30. MCG/L
BENZO(B)FLUORANTHENE	< 20. MCG/L
BENZO(K)FLUORANTHENE	< 20. MCG/L
BENZO(A)PYRENE	< 20. MCG/L
INDENO(1,2,3-CD)PYRENE	< 20. MCG/L
DIBENZO(AH)ANTHRACENE	< 20. MCG/L
BENZO(GHI)PERYLENE	< 20. MCG/L

**** END OF REPORT ****

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 901002377 SAMPLE RECEIVED:90/10/12/11 CHARGE: 5.00
PROGRAM: 110:STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:1353
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: DOVER LANDFILL SITE ID#314066
DESCRIPTION:L. MOSTACHETTI BOX 338 WINGDALE NY 12590 SOFTENED
REPORTING LAB: 10:LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-001:SAFE DRINKING WATER ACT - METALS ONLY
SAMPLE TYPE: 115:WELL SAMPLE
TIME OF SAMPLING: 90/10/10 11:50 DATE PRINTED:90/11/14

ANALYSIS: ICP-1 ICP GROUPING 1

PARAMETER	RESULT
MERCURY	< 0.2 MCG/L
ARSENIC	< 10. MCG/L
SELENIUM	< 5. MCG/L
LEAD	< 10. MCG/L
BERYLLIUM	< 1. MCG/L
SILVER	< 10. MCG/L
BARIUM	< 5. MCG/L
CADMIUM	< 5. MCG/L
COBALT	< 5. MCG/L
CHROMIUM	< 5. MCG/L
COPPER	221. MCG/L
IRON	< 10. MCG/L
MANGANESE	< 5. MCG/L
NICKEL	< 5. MCG/L
STRONTIUM	< 50. MCG/L
TITANIUM	< 5. MCG/L
VANADIUM	< 5. MCG/L
ZINC	< 10. MCG/L
MOLYBDENUM	< 20. MCG/L
ANTIMONY	< 80. MCG/L
TIN	< 50. MCG/L
THALLIUM	< 80. MCG/L
ALUMINUM	< 100. MCG/L
CALCIUM	0.83 MG/L
POTASSIUM	0.52 MG/L
MAGNESIUM	1.3 MG/L
~~SODIUM~~	~~168. MG/L~~

**** END OF REPORT ****

COPIES SENT TO: CO(2), RO(0), LPHE(3), FED( ), INFO-P( ), INFO-L( )

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T, HEALTH SUBMITTED BY:CARTER
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

~~FINAL REPORT~~

SAMPLE ID: 903512 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
PROGRAM: 110: STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 1353
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: DOVER LANDFILL SITE ID #314066
DESCRIPTION: L. MOSTACHETTI, BOX 338, WINGDALE, NY, SOFTENED E
REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: AQUEOUS-1: VOLATILES, KETONES, PESTICIDES, PCB'S, PRIORITY POLLUTANTS
SAMPLE TYPE: 115: WELL SAMPLE
TIME OF SAMPLING: 90/10/10 11:50 DATE PRINTED: 90/11/27

ANALYSIS: VHO5021 VOLATILE HALOGENATED ORGANICS (DES 310-29)
DATE REPORTED: 90/11/02 REPORT MAILED OUT

PARAMETER	RESULT
CHLOROMETHANE	< 0.5 MCG/L
BROMOMETHANE	< 0.5 MCG/L
VINYL CHLORIDE	< 0.5 MCG/L
DICHLORODIFLUOROMETHANE (FREON-12)	< 0.5 MCG/L
CHLOROETHANE	< 0.5 MCG/L
METHYLENE CHLORIDE (DICHLOROMETHANE)	< 0.5 MCG/L
TRICHLOROFLUORONETHANE (FREON-11)	< 0.5 MCG/L
1,1-DICHLOROETHENE	< 0.5 MCG/L
1,1-DICHLOROETHANE	< 0.5 MCG/L
TRANS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CIS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CHLOROFORM	< 0.5 MCG/L
1,2-DICHLOROETHANE	< 0.5 MCG/L
DIBROMOMETHANE	< 0.5 MCG/L
1,1,1-TRICHLOROETHANE	< 0.5 MCG/L
CARBON TETRACHLORIDE	< 0.5 MCG/L
BROMODICHLOROMETHANE	< 0.5 MCG/L
2,3-DICHLOROPROPENE	< 0.5 MCG/L
1,2-DICHLOROPROPANE	< 0.5 MCG/L
CIS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
TRICHLOROETHENE	< 0.5 MCG/L
1,3-DICHLOROPROPANE	< 0.5 MCG/L
DIBROMOCHLOROMETHANE	< 0.5 MCG/L
TRANS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
1,1,2-TRICHLOROETHANE	< 0.5 MCG/L
1,2-DIBROMOETHANE (EDB)	< 0.5 MCG/L
2-CHLOROETHYLVINYL ETHER	< 0.5 MCG/L
BROMOFORM	< 0.5 MCG/L
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L
1,2,3-TRICHLOROPROPANE	< 0.5 MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(2), RO(0), LPHE(3), FED( ), INFO-P( ), INFO-L( )

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY: JB CARTER

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903512 SAMPLE RECEIVED: 90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION: DOVER COUNTY: DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11:50 DATE PRINTED: 90/11/27

PARAMETER	RESULT
1,1,2,2-TETRACHLOROETHANE	< 0.5 MCG/L
TETRACHLOROETHENE	< 0.5 MCG/L
PENTACHLOROETHANE	< 0.5 MCG/L
1-CHLOROCYCLOHEXENE-1	< 0.5 MCG/L
CHLOROBENZENE	< 0.5 MCG/L
BIS(2-CHLOROETHYL)ETHER	< 0.5 MCG/L
1,2-DIBROMO-3-CHLOROPROPANE	< 0.5 MCG/L
BROMOBENZENE	< 0.5 MCG/L
O-CHLOROTOLUENE	< 0.5 MCG/L
BIS(2-CHLOROISOPROPYL)ETHER	< 0.5 MCG/L
1,3-DICHLOROBENZENE	< 0.5 MCG/L
1,2-DICHLOROBENZENE	< 0.5 MCG/L
1,4-DICHLOROBENZENE	< 0.5 MCG/L

ANALYSIS: 5031 AROMATIC PURGEABLES, EPA METHOD 503.1 (DES 310-22)
DATE REPORTED: 90/10/23 REPORT MAILED OUT

PARAMETER	RESULT
BENZENE	< 0.5 MCG/L
TOLUENE	< 0.5 MCG/L
ETHYLBENZENE	< 0.5 MCG/L
P-XYLENE	< 0.5 MCG/L
M-XYLENE	< 0.5 MCG/L
O-XYLENE	< 0.5 MCG/L
ISOPROPYLBENZENE (CUMENE)	< 0.5 MCG/L
STYRENE	< 0.5 MCG/L
P-BROMOFLUOROBENZENE	< 0.5 MCG/L
N-PROPYLBENZENE	< 0.5 MCG/L
TERT-BUTYLBENZENE	< 0.5 MCG/L
P-CHLOROTOLUENE	< 0.5 MCG/L
M-CHLOROTOLUENE	< 0.5 MCG/L
1,3,5-TRIMETHYLBENZENE	< 0.5 MCG/L
1,2,4-TRIMETHYLBENZENE	< 0.5 MCG/L
4-ISOPROPYLTOLUENE (P-CYMENE)	< 0.5 MCG/L
CYCLOPROPYLBENZENE	< 0.5 MCG/L
SEC-BUTYLBENZENE	< 0.5 MCG/L
N-BUTYLBENZENE	< 0.5 MCG/L
2,3-BENZOFURAN	< 0.5 MCG/L
HEXACHLOROBUTADIENE (C-46)	< 0.5 MCG/L
1,2,4-TRICHLOROBENZENE	< 0.5 MCG/L
NAPHTHALENE	< 0.5 MCG/L
1,2,3-TRICHLOROBENZENE	< 0.5 MCG/L
PH OF AROMATIC ALIQUOT	2

**** CONTINUED ON NEXT PAGE ****

NEW Y°RK STATE DEPARTMENT OF HEALTH
WADSWORTH ·NTER FOR LABORATORIES AND(·SEARCH

FINAL REPORT

RESULTS OF EXAMINATION

SAMPLE ID: 903512 SAMPLE RECEIVED:90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11:50 DATE PRINTED:90/11/27

ANALYSIS: KET KETONES - PURGE & TRAP TECHNIQUE (DES 310-25)
DATE REPORTED: 90/11/08 REPORT MAILED OUT

PARAMETER	RESULT
2-BUTANONE (METHYL ETHYL KETONE)	< 10. MCG/L
4-METHYL-2-PENTANONE (MIBK)	< 10. MCG/L
ACETONE	< 10. MCG/L
METHYL TERT BUTYL ETHER	< 10. MCG/L

ANALYSIS: XPEST-PCB ORGANOCHLORINE PESTICIDES & PCB'S (DES310-2)
DATE REPORTED: 90/11/20 REPORT MAILED OUT

PARAMETER	RESULT
HCH,ALPHA	< 0.04 MCG/L
HCH,BETA	< 0.04 MCG/L
HCH,GAMMA (LINDANE)	< 0.04 MCG/L
HCH,DELTA	< 0.04 MCG/L
HEPTACHLOR	< 0.05 MCG/L
ALDRIN	< 0.02 MCG/L
HEPTACHLOR EPOXIDE	< 0.05 MCG/L
ENDOSULFAN I	< 0.05 MCG/L
4,4'-DDE	< 0.05 MCG/L
DIELDRIN	< 0.02 MCG/L
ENDRIN	< 0.02 MCG/L
4,4'-DDD	< 0.05 MCG/L
ENDOSULFAN II	< 0.05 MCG/L
ENDRIN ALDEHYDE	< 0.02 MCG/L
ENDOSULFAN SULFATE	< 0.05 MCG/L
4,4'-DDT	< 0.05 MCG/L
METHOXYCHLOR	< 0.5 MCG/L
TOXAPHENE	< 1.0 MCG/L
CHLORDANE	< 0.1 MCG/L
MIREX	< 0.05 MCG/L
PCB,AROCLOR 1221	< 0.05 MCG/L
PCB,AROCLOR 1016/1242	< 0.05 MCG/L
PCB,AROCLOR 1248	< 0.05 MCG/L
PCB,AROCLOR 1254	< 0.05 MCG/L
PCB,AROCLOR 1260	< 0.05 MCG/L

ANALYSIS: GC-FID-A PRIORITY POLLUTANTS*ACIDS*GC/FID RESULTS
DATE PRINTED: 90/11/27 FINAL REPORT

PARAMETER	RESULT
PHENOL	< 10. MCG/L
2-CHLOROPHENOL	< 10. MCG/L
2-NITROPHENOL	< 10. MCG/L
2,4-DIMETHYLPHENOL	< 10. MCG/L
2,4-DICHLOROPHENOL	< 10. MCG/L
4-CHLORO-3-METHYLPHENOL	< 10. MCG/L

**** CONTINUED ON NEXT PAGE ****

NEW Y^RK STATE DEPARTMENT OF HEALTH
WADSWORTH _NTER FOR LABORATORIES AND(ESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903512 SAMPLE RECEIVED:90/10/12/ CHARGE: 35.50
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LOCATION: DOVER LANDFILL SITE ID #314066
TIME OF SAMPLING: 90/10/10 11:50 DATE PRINTED:90/11/27

PARAMETER	RESULT
2,4,6-TRICHLOROPHENOL	< 10. MCG/L
2,4,5-TRICHLOROPHENOL	< 10. MCG/L
2,4-DINITROPHENOL	< 10. MCG/L
4-NITROPHENOL	< 10. MCG/L
2-METHYL-4,6-DINITROPHENOL	< 10. MCG/L
PENTACHLOROPHENOL	< 10. MCG/L

ANALYSIS: GC-FID-BN PRIORITY POLLUTANTS*BASE/NEUTRALS*GC/FID RESULTS
DATE PRINTED: 90/11/27 FINAL REPORT

PARAMETER	RESULT
N-NITROSODI-N-PROPYLAMINE	< 10. MCG/L
HEXACHLOROETHANE	< 10. MCG/L
NITROBENZENE	< 10. MCG/L
ISOPHORONE	< 10. MCG/L
BIS(2-CHLOROETHOXY)METHANE	< 10. MCG/L
HEXACHLOROCYCLOPENTADIENE (C-56)	< 10. MCG/L
2-CHLORONAPHTHALENE	< 10. MCG/L
2,6-DINITROTOLUENE	< 10. MCG/L
ACENAPHTHYLENE	< 10. MCG/L
DIMETHYLPHTHALATE	< 10. MCG/L
ACENAPHTHENE	< 10. MCG/L
2,4-DINITROTOLUENE	< 10. MCG/L
DIETHYLPHTHALATE	< 10. MCG/L
FLUORENE	< 10. MCG/L
N-NITROSODIPHENYLAMINE	< 10. MCG/L
1,2-DIPHENYLHYDRAZINE	< 10. MCG/L
4-BROMOPHENYL PHENYL ETHER	< 10. MCG/L
HEXACHLOROBENZENE	< 10. MCG/L
PHENANTHRENE	< 10. MCG/L
ANTHRACENE	< 10. MCG/L
DI-N-BUTYL PHTHALATE	< 10. MCG/L
FLUORANTHENE	< 10. MCG/L
PYRENE	< 10. MCG/L
BENZIDINE	< 30. MCG/L
BUTYL BENZYL PHTHALATE	< 30. MCG/L
BENZO(A)ANTHRACENE	< 10. MCG/L
3,3'-DICHLOROBENZIDINE	< 10. MCG/L
CHRYSENE	< 10. MCG/L
BIS(2-ETHYLHEXYL)PHTHALATE	< 30. MCG/L
DI-N-OCTYL PHTHALATE	< 30. MCG/L
BENZO(B)FLUORANTHENE	< 20. MCG/L
BENZO(K)FLUORANTHENE	< 20. MCG/L
BENZO(A)PYRENE	< 20. MCG/L
INDENO(1,2,3-CD)PYRENE	< 20. MCG/L
DIBENZO(AH)ANTHRACENE	< 20. MCG/L
BENZO(GHI)PERYLENE	< 20. MCG/L

**** END OF REPORT ****

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903513 SAMPLE RECEIVED:90/10/12/ CHARGE: 19.00
PROGRAM: 110:STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE:1353
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LATITUDE: . LONGITUDE: . Z DIRECTION:
LOCATION: FIELD BLANK - DOVER L.F.
DESCRIPTION:WITH SAMPLE #903508-903512 DATE PREPARED 9/25/90
REPORTING LAB: TOX:LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: VOL3-KET:PURGEABLES & KETONES
SAMPLE TYPE: 297:FIELD BLANK / TRIP BLANK
TIME OF SAMPLING: 90/10/10 : DATE PRINTED:90/11/08

ANALYSIS: VH05021 VOLATILE HALOGENATED ORGANICS (DES 310-29)
DATE REPORTED: 90/11/02 REPORT MAILED OUT

PARAMETER	RESULT
CHLOROMETHANE	< 0.5 MCG/L
BROMOMETHANE	< 0.5 MCG/L
VINYL CHLORIDE	< 0.5 MCG/L
DICHLORODIFLUOROMETHANE (FREON-12)	< 0.5 MCG/L
CHLOROETHANE	< 0.5 MCG/L
METHYLENE CHLORIDE (DICHLOROMETHANE)	< 0.5 MCG/L
TRICHLOROFLUOROMETHANE (FREON-11)	< 0.5 MCG/L
1,1-DICHLOROETHENE	< 0.5 MCG/L
1,1-DICHLOROETHANE	< 0.5 MCG/L
TRANS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CIS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CHLOROFORM	< 0.5 MCG/L
1,2-DICHLOROETHANE	< 0.5 MCG/L
DIBROMOMETHANE	< 0.5 MCG/L
1,1,1-TRICHLOROETHANE	< 0.5 MCG/L
CARBON TETRACHLORIDE	< 0.5 MCG/L
BROMODICHLOROMETHANE	< 0.5 MCG/L
2,3-DICHLOROPROPENE	< 0.5 MCG/L
1,2-DICHLOROPROPANE	< 0.5 MCG/L
CIS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
TRICHLOROETHENE	< 0.5 MCG/L
1,3-DICHLOROPROPANE	< 0.5 MCG/L
DIBROMOCHLOROMETHANE	< 0.5 MCG/L
TRANS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
1,1,2-TRICHLOROETHANE	< 0.5 MCG/L
1,2-DIBROMOETHANE (EDB)	< 0.5 MCG/L
2-CHLOROETHYLVINYL ETHER	< 0.5 MCG/L
BROMOFORM	< 0.5 MCG/L
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L
1,2,3-TRICHLOROPROPANE	< 0.5 MCG/L

**** CONTINUED ON NEXT PAGE ****

COPIES SENT TO: CO(1), RO(0), LPHE(1), FED( ), INFO-P( ), INFO-L( )

RONALD TRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH
II UNIVERSITY PLACE
ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY:JB CARTER

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH ( )NTER FOR LABORATORIES AND ( )SEARCH

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 903513 SAMPLE RECEIVED:90/10/12/ CHARGE: 19.00
POLITICAL SUBDIVISION:DOVER COUNTY:DUTCHESS
LOCATION: FIELD BLANK - DOVER L.F.
TIME OF SAMPLING: 90/10/10 : DATE PRINTED:90/11/08

PARAMETER	RESULT
1,1,2,2-TETRACHLOROETHANE	< 0.5 MCG/L
TETRACHLOROETHENE	< 0.5 MCG/L
PENTACHLOROETHANE	< 0.5 MCG/L
1-CHLOROCYCLOHEXENE-1	< 0.5 MCG/L
CHLOROBENZENE	< 0.5 MCG/L
BIS(2-CHLOROETHYL)ETHER	< 0.5 MCG/L
1,2-DIBROMO-3-CHLOROPROPANE	< 0.5 MCG/L
BROMOBENZENE	< 0.5 MCG/L
O-CHLOROTOLUENE	< 0.5 MCG/L
BIS(2-CHLOROISOPROPYL)ETHER	< 0.5 MCG/L
1,3-DICHLOROBENZENE	< 0.5 MCG/L
1,2-DICHLOROBENZENE	< 0.5 MCG/L
1,4-DICHLOROBENZENE	< 0.5 MCG/L

ANALYSIS: 5031 AROMATIC PURGEABLES, EPA METHOD 503.1 (DES 310-22)
DATE REPORTED: 90/10/23 REPORT MAILED OUT

PARAMETER	RESULT
BENZENE	< 0.5 MCG/L
TOLUENE	< 0.5 MCG/L
ETHYLBENZENE	< 0.5 MCG/L
P-XYLENE	< 0.5 MCG/L
M-XYLENE	< 0.5 MCG/L
O-XYLENE	< 0.5 MCG/L
ISOPROPYLBENZENE (CUMENE)	< 0.5 MCG/L
STYRENE	< 0.5 MCG/L
P-BROMOFLUOROBENZENE	< 0.5 MCG/L
N-PROPYLBENZENE	< 0.5 MCG/L
TERT-BUTYLBENZENE	< 0.5 MCG/L
P-CHLOROTOLUENE	< 0.5 MCG/L
M-CHLOROTOLUENE	< 0.5 MCG/L
1,3,5-TRIMETHYLBENZENE	< 0.5 MCG/L
1,2,4-TRIMETHYLBENZENE	< 0.5 MCG/L
4-ISOPROPYLTOLUENE (P-CYMENE)	< 0.5 MCG/L
CYCLOPROPYLBENZENE	< 0.5 MCG/L
SEC-BUTYLBENZENE	< 0.5 MCG/L
N-BUTYLBENZENE	< 0.5 MCG/L
2,3-BENZOFURAN	< 0.5 MCG/L
HEXACHLOROBUTADIENE (C-46)	< 0.5 MCG/L
1,2,4-TRICHLOROBENZENE	< 0.5 MCG/L
NAPHTHALENE	< 0.5 MCG/L
1,2,3-TRICHLOROBENZENE	< 0.5 MCG/L
PH OF AROMATIC ALIQUOT	7

**** CONTINUED ON NEXT PAGE ****

REFERENCE 8

REFERENCE # 8
PAGE 1 OF 28

314066

New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
Bureau of Hazardous Site Control
Additions/Change to Registry Summary of Approvals

Site Name Dover Landfill DEC I.D. Number 314066

Current Classification 2a

Activity ☐ Add as Class___ ☐ Reclassify to ___ ☑ Delist Category D1 ☐ Modify___

Approvals.

Regional Hazardous Waste Engineer	Yes	☑	No	☐	
NYSDOH	Yes	☑	No	☐	
DEE	Yes	☑	No	☐	
BHSC: a. Investigation Section	Yes	☑	No	☐	

b. Site Control Section [signature] Date 4/2/91

c. Director [signature] Date 4/3/91

DHWR Assistant Director [signature] Date 4/8/91

1991~92

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

1. SITE NAME	2. SITE NO.	3. TOWN	4. COUNTY
Dover Landfill	314066	Wingdale	Dutchess

5. REGION	6. CLASSIFICATION	7. ACTIVITY
3	Current 2a /Proposed Dl	☐ Add ☐ Reclassify ☒ Delist ☐ Modify

8a. DESCRIBE LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location)

The site is off Pleasant Ridge Rd. (Cty Rd. 21) in Wingdale.

b Quadrangle Dover Plains c Site Latitude 41° 39' Longitude 73° 34' d. Tax Map Number ______

9a BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)

The site is a closed municipal landfill and is currently under Part 360 consent order.

b. Area 5 acres c EPA ID Number ______ d. PA/SI ☐ Yes ☒ No

e. Completed ☒ Phase I ☒ Phase II PRP ☐ PSA ☐ Sampling

10. BRIEFLY LIST THE TYPE AND QUANTITY OF THE HAZARDOUS WASTE AND THE DATES THAT IT WAS DISPOSED OF AT THIS SITE

There is no record of hazardous waste disposal.

11a. SUMMARIZED SAMPLING DATA ATTACHED

☐ Air ☒ Groundwater ☐ Surface Water ☐ Soil ☐ Waste ☐ EP Tox ☐ TCLP

b List contravened parameters and values

12. SITE IMPACT DATA

a. Nearest surface water: Distance 1500 ft. Direction NE Classification ______

b. Nearest groundwater: Depth 6 ft. Flow Direction W to NW ☐ Sole Source ☐ Primary ☒ Principal

c. Nearest water supply: Distance 2218 ft Direction North Active ☒ Yes ☐ No

d. Nearest building: Distance 898 ft. Direction South Use Resident

e Crops or livestock on site? ☐ Yes ☒ No

f. Exposed hazardous waste? ☐ Yes ☒ No

g. Controlled site access? ☐ Yes ☒ No

h Documented fish or wildlife mortality? ☐ Yes ☒ No

i Impact on special status fish or wildlife resource? ☐ Yes ☐ No

j Within a State Economic Development Zone? ☐ Yes ☐ No

k. For Class 2a: Code ______ Health Model Score ______

l For Class 2. Priority Category ______

m. HRS Score 0

n. Significant Threat ☐ Yes ☒ No ☐ Unknown

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE NUMBER
Leo Mastrochetti	Mountain Rd., Wingdale NY 12594	(914) 832-6146

16. PREPARER

Keith Browne, Environmental Engineer, Dir. Hazardous Waste Remediation
Name, Title and Organization

3/11/91 — Date
Keith Browne — Signature

17. APPROVED

John B. Swartwout, Chief Eastern Investigation Section
Name, Title and Organization

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

1. SITE NAME	2. SITE NO.	3. TOWN	4. COUNTY
Dover Landfill	314066	Wingdale	Dutchess

5. REGION: 3
6. CLASSIFICATION: Current 2a / Proposed D1
7. ACTIVITY: ☐ Add ☐ Reclassify ☒ Delist ☐ Modify

8a. DESCRIBE LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location).

The site is off Pleasant Ridge Rd. (Cty Rd. 21) in Wingdale.

b. Quadrangle Dover Plains c. Site Latitude 41° 39' Longitude 73° 34' d. Tax Map Number

9a. BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)

The site is a closed municipal landfill and is currently under Part 360 consent order.

b. Area 5 acres c. EPA ID Number d. PA/SI ☐ Yes ☒ No
e. Completed: ☒ Phase I ☒ Phase II PRP ☐ PSA ☐ Sampling

10. BRIEFLY LIST THE TYPE AND QUANTITY OF THE HAZARDOUS WASTE AND THE DATES THAT IT WAS DISPOSED OF AT THIS SITE

There is no record of hazardous waste disposal.

11a. SUMMARIZED SAMPLING DATA ATTACHED
☐ Air ☒ Groundwater ☐ Surface Water ☐ Soil ☐ Waste ☐ EP Tox ☐ TCLP.

b. List contravened parameters and values

12. SITE IMPACT DATA

a. Nearest surface water: Distance 1500 ft. Direction NE Classification
b. Nearest groundwater: Depth 6 ft. Flow Direction W to NW ☐ Sole Source ☐ Primary ☒ Principal
c. Nearest water supply: Distance 2218 ft. Direction North Active ☒ Yes ☐ No
d. Nearest building: Distance 898 ft. Direction South Use Resident
e. Crops or livestock on site? ☐ Yes ☒ No
f. Exposed hazardous waste? ☐ Yes ☒ No
g. Controlled site access? ☐ Yes ☒ No
h. Documented fish or wildlife mortality? ☐ Yes ☒ No
i. Impact on special status fish or wildlife resource? ☐ Yes ☐ No
j. Within a State Economic Development Zone? ☐ Yes ☐ No
k. For Class 2a: Code Health Model Score
l. For Class 2. Priority Category
m. HRS Score 0
n. Significant Threat ☐ Yes ☐ No ☐ Unknown

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE NUMBER
Leo Mastrochetti	Mountain Rd., Wingdale NY	(914) 832-6146

16. PREPARER
Keith Browne, Environmental Engineer, Dir. Hazardous Waste Remediation
Name, Title and Organization
2/11/91
Date
Keith Browne
Signature
2/11/91 LB

17. APPROVED
Ramanand Pergadia RHWRE
Name, Title and Organization
2/11/91

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

REFERENCE # 8
PAGE 4 OF 28

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

1. SITE NAME	2. SITE NO.	3. TOWN	4. COUNTY
Dover Landfill	314066	Wingdale	Dutchess

5. REGION	6. CLASSIFICATION	7. ACTIVITY
3	Current 2a /Proposed Dl	☐ Add ☐ Reclassify ☒ Delist ☐ Modify

8a. DESCRIBE LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location).

The site is off Pleasant Ridge Rd. (Cty Rd. 21) in Wingdale.

b. Quadrangle Dover Plains c. Site Latitude 41° 39' Longitude 73° 34' d. Tax Map Number

9a BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)

The site is a closed municipal landfill and is currently under Part 360 consent order.

b. Area 5 acres c. EPA ID Number d. PA/SI ☐ Yes ☒ No

e. Completed: ☒ Phase I ☒ Phase II PRP ☐ PSA ☐ Sampling

10. BRIEFLY LIST THE TYPE AND QUANTITY OF THE HAZARDOUS WASTE AND THE DATES THAT IT WAS DISPOSED OF AT THIS SITE

There is no record of hazardous waste disposal.

11a. SUMMARIZED SAMPLING DATA ATTACHED

☐ Air ☒ Groundwater ☐ Surface Water ☐ Soil ☐ Waste ☐ EP Tox ☐ TCLP.

b. List contravened parameters and values

12. SITE IMPACT DATA

a. Nearest surface water: Distance 1500 ft. Direction NE Classification

b. Nearest groundwater: Depth 6 ft. Flow Direction W to NW ☐ Sole Source ☐ Primary ☒ Principal

c. Nearest water supply: Distance 2218 ft. Direction North Active ☒ Yes ☐ No

d. Nearest building: Distance 898 ft. Direction South Use Resident

e. Crops or livestock on site? ☐ Yes ☒ No

f. Exposed hazardous waste? ☐ Yes ☒ No

g. Controlled site access? ☐ Yes ☒ No

h. Documented fish or wildlife mortality? ☐ Yes ☒ No

i. Impact on special status fish or wildlife resource? ☐ Yes ☐ No

j. Within a State Economic Development Zone? ☐ Yes ☐ No

k. For Class 2a: Code Health Model Score

l. For Class 2: Priority Category

m. HRS Score 0

n. Significant Threat ☐ Yes ☐ No ☐ Unknown

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE NUMBER
Leo Mastrochetti	Mountain Rd., Wingdale NY	(914) 832-6146

16. PREPARER

Keith Browne, Environmental Engineer, Dir. Hazardous Waste Remediation

Name, Title and Organization

2/11/91 Keith Browne

Date Signature

17. APPROVED

Name, Title and Organization

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

REFERENCE # 8
PAGE 5 OF 28

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

1. SITE NAME: Dover Landfill
2. SITE NO.: 314066
3. TOWN: Wingdale
4. COUNTY: Dutchess

5. REGION: 3
6. CLASSIFICATION: Current 2a / Proposed D1
7. ACTIVITY: ☐ Add ☐ Reclassify ☒ Delist ☐ Modify

8a. DESCRIBE LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location).

The site is off Pleasant Ridge Rd. (Cty Rd. 21) in Wingdale.

b. Quadrangle Dover Plains c. Site Latitude 41° 39' Longitude 73° 34' d. Tax Map Number

9a. BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)

The site is a closed municipal landfill and is currently under Part 360 consent order.

b. Area 5 acres c. EPA ID Number d. PA/SI ☐ Yes ☒ No

e. Completed: ☒ Phase I ☒ Phase II PRP ☐ PSA ☐ Sampling

10. BRIEFLY LIST THE TYPE AND QUANTITY OF THE HAZARDOUS WASTE AND THE DATES THAT IT WAS DISPOSED OF AT THIS SITE

There is no record of hazardous waste disposal.

11a. SUMMARIZED SAMPLING DATA ATTACHED
☐ Air ☒ Groundwater ☐ Surface Water ☐ Soil ☐ Waste ☐ EP Tox ☐ TCLP.

b. List contravened parameters and values

12. SITE IMPACT DATA

a. Nearest surface water: Distance 1500 ft. Direction NE Classification
b. Nearest groundwater: Depth 6 ft. Flow Direction W to NW ☐ Sole Source ☐ Primary ☒ Principal
c. Nearest water supply: Distance 2218 ft. Direction North Active ☒ Yes ☐ No
d. Nearest building: Distance 898 ft. Direction South Use Resident
e. Crops or livestock on site? ☐ Yes ☒ No
f. Exposed hazardous waste? ☐ Yes ☒ No
g. Controlled site access? ☐ Yes ☒ No
h. Documented fish or wildlife mortality? ☐ Yes ☒ No
i. Impact on special status fish or wildlife resource? ☐ Yes ☐ No
j. Within a State Economic Development Zone? ☐ Yes ☐ No
k. For Class 2a: Code Health Model Score
l. For Class 2: Priority Category
m. HRS Score 0
n. Significant Threat ☐ Yes ☐ No ☐ Unknown

13. SITE OWNER'S NAME: Leo Mastrochetti
14. ADDRESS: Mountain Rd., Wingdale NY
15. TELEPHONE NUMBER: (914) 832-6146

16. PREPARER
Keith Browne, Environmental Engineer, Dir. Hazardous Waste Remediation
Name, Title and Organization
2/11/91
Date
Keith Browne
Signature

17. APPROVED
Richard H. Dana, Chief, Bur. of Technical Services, DEE
Name, Title and Organization

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

REFERENCE # 8
PAGE 6 OF 28

ADDITIONS/CHANGES TO REGISTRY OF INACTIVE HAZARDOUS WASTE DISPOSAL SITES

1. SITE NAME	2. SITE NO.	3. TOWN	4. COUNTY
Dover Landfill	314066	Wingdale	Dutchess

5. REGION 3
6. CLASSIFICATION Current 2a /Proposed D1
7. ACTIVITY ☐ Add ☐ Reclassify ☒ Delist ☐ Modify

8a. DESCRIBE LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location).

The site is off Pleasant Ridge Rd. (Cty Rd. 21) in Wingdale.

b. Quadrangle Dover Plains c. Site Latitude 41° 39' Longitude 73° 34' d. Tax Map Number

9a. BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations)

The site is a closed municipal landfill and is currently under Part 360 consent order.

b. Area 5 acres c. EPA ID Number d. PA/SI ☐ Yes ☒ No

e. Completed ☒ Phase I ☒ Phase II PRP ☐ PSA ☐ Sampling

10. BRIEFLY LIST THE TYPE AND QUANTITY OF THE HAZARDOUS WASTE AND THE DATES THAT IT WAS DISPOSED OF AT THIS SITE

There is no record of hazardous waste disposal.

11a. SUMMARIZED SAMPLING DATA ATTACHED
☐ Air ☒ Groundwater ☐ Surface Water ☐ Soil ☐ Waste ☐ EP Tox ☐ TCLP

b. List contravened parameters and values

12. SITE IMPACT DATA

a. Nearest surface water: Distance 1500 ft. Direction NE Classification
b. Nearest groundwater Depth 6 ft. Flow Direction W to NW ☐ Sole Source ☐ Primary ☒ Principal
c. Nearest water supply: Distance 2218 ft Direction North Active ☒ Yes ☐ No
d. Nearest building: Distance 898 ft. Direction South Use Resident
e. Crops or livestock on site? ☐ Yes ☒ No
f. Exposed hazardous waste? ☐ Yes ☒ No
g. Controlled site access? ☐ Yes ☒ No
h. Documented fish or wildlife mortality? ☐ Yes ☒ No
i. Impact on special status fish or wildlife resource? ☐ Yes ☐ No
j. Within a State Economic Development Zone? ☐ Yes ☐ No
k. For Class 2a: Code Health Model Score
l. For Class 2. Priority Category
m. HRS Score 0
n. Significant Threat ☐ Yes ☐ No ☐ Unknown

13. SITE OWNER'S NAME	14. ADDRESS	15. TELEPHONE NUMBER
Leo Mastrochetti	Mountain Rd., Wingdale NY	(914) 832-6146

16. PREPARER
Keith Browne, Environmental Engineer, Dir. Hazardous Waste Remediation
Name, Title and Organization

3/11/91 Keith Browne
Date Signature

17. APPROVED
RONALD TRAMONTANO NYS DOH, DBEEI
Name, Title and Organization
3/26/91 Ronald Tramontano

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
REFERENCE # 8
DIVISION OF SOLID AND HAZARDOUS WASTE
PAGE 7 OF 28
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: C - D1   REGION: 3   SITE CODE: 314066
EPA ID:

NAME OF SITE : Dover Landfill, Mountain Rd.
STREET ADDRESS: Pleasant Ridge Rd., Wingdale NY 12594
TOWN/CITY: Dover   COUNTY: Dutchess   ZIP: 12594

SITE TYPE: Open Dump- Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 5 ± Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Leo Mastrochetti
CURRENT OWNER ADDRESS.: Mountain Rd. Wingdale NY
OWNER(S) DURING USE...:
OPERATOR DURING USE...:
OPERATOR ADDRESS......:
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1943 To 1983

SITE DESCRIPTION:

A small quantity of commercial waste was accepted, no industrial waste was permitted. Open burning was the common practice. A freshwater wetland is located about 25 feet away from the landfill. Leachate is visible at several areas around the perimeter of the site. Phase I study is completed. The Town is under a Region Part 360 consent order for an equivalent Phase II investigation and closure of the landfill. The investigation, ~~is being~~ handled by the Division of Hazardous Waste Remediation, is complete. ~~and~~ The closure is being handled by the Division of Solid Waste. ~~Phase II investigation is complete.~~

HAZARDOUS WASTE DISPOSED: Confirmed- Suspected-

TYPE	QUANTITY (units)

SITE CODE: 314066

ANALYTICAL DATA AVAILABLE:
Air- Surface Water-X Groundwater-X Soil-X Sediment-

CONTRAVENTION OF STANDARDS:
Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE..: State- Federal-
STATUS: Negotiation in Progress- Order Signed- ~~X [illegible]60~~

REMEDIAL ACTION:

Proposed- Under design- In Progress- Completed-
NATURE OF ACTION:

GEOTECHNICAL INFORMATION:
SOIL TYPE:
GROUNDWATER DEPTH:

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

ASSESSMENT OF HEALTH PROBLEMS:

REFERENCE # 8
PAGE 9 OF 28

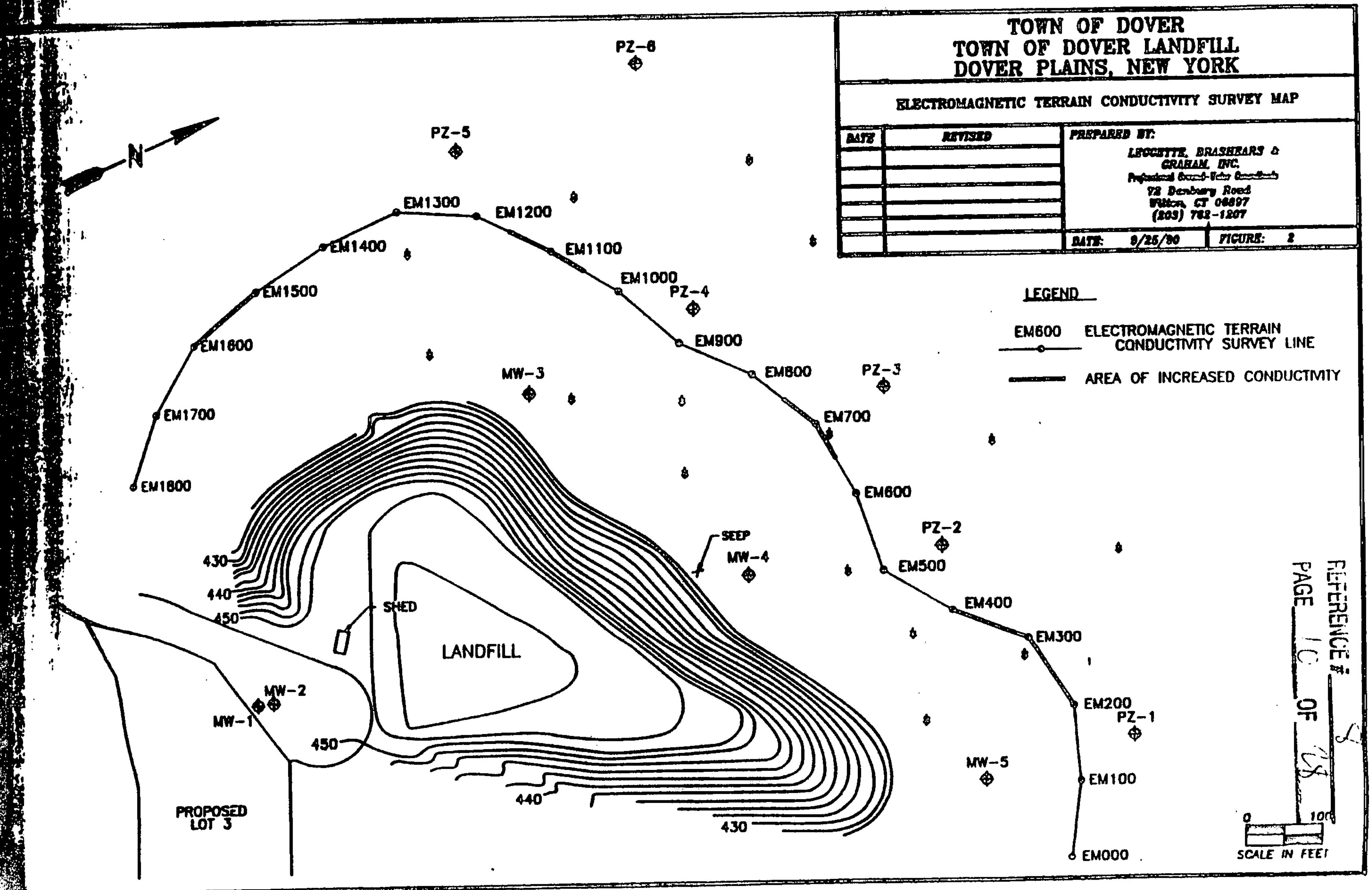
NOTE: PORTION TAKEN FROM DOVER PLAINS, NEW YORK - CONNECTICUT QUADRANGLE

0 2000
SCALE IN FEET

TOWN OF DOVER
TOWN OF DOVER LANDFILL
DOVER PLAINS, NEW YORK

SITE LOCATION MAP

DATE	REVISED	PREPARED BY: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water Consultants 72 Danbury Road Wilton, CT 06897 203-762-1207
		DATE: 7/25/90 FIGURE 1



TOWN OF DOVER
TOWN OF DOVER LANDFILL
DOVER PLAINS, NEW YORK
ELECTROMAGNETIC TERRAIN CONDUCTIVITY SURVEY MAP
DATE
REVISED
PREPARED BY:
LEGGETTE, BRASHEARS &
GRAHAM, INC.
72 Danbury Road
Wilton, CT 06897
(203) 762-1207
DATE: 9/25/90
FIGURE: 2
LEGEND
EM600 ELECTROMAGNETIC TERRAIN CONDUCTIVITY SURVEY LINE
AREA OF INCREASED CONDUCTIVITY
N
PZ-6
PZ-5
PZ-4
PZ-3
PZ-2
PZ-1
MW-1
MW-2
MW-3
MW-4
MW-5
EM000
EM100
EM200
EM300
EM400
EM500
EM600
EM700
EM800
EM900
EM1000
EM1100
EM1200
EM1300
EM1400
EM1500
EM1600
EM1700
EM1800
SEEP
SHED
LANDFILL
430
440
450
PROPOSED
LOT 3
0
100
SCALE IN FEET
REFERENCE #
PAGE
OF

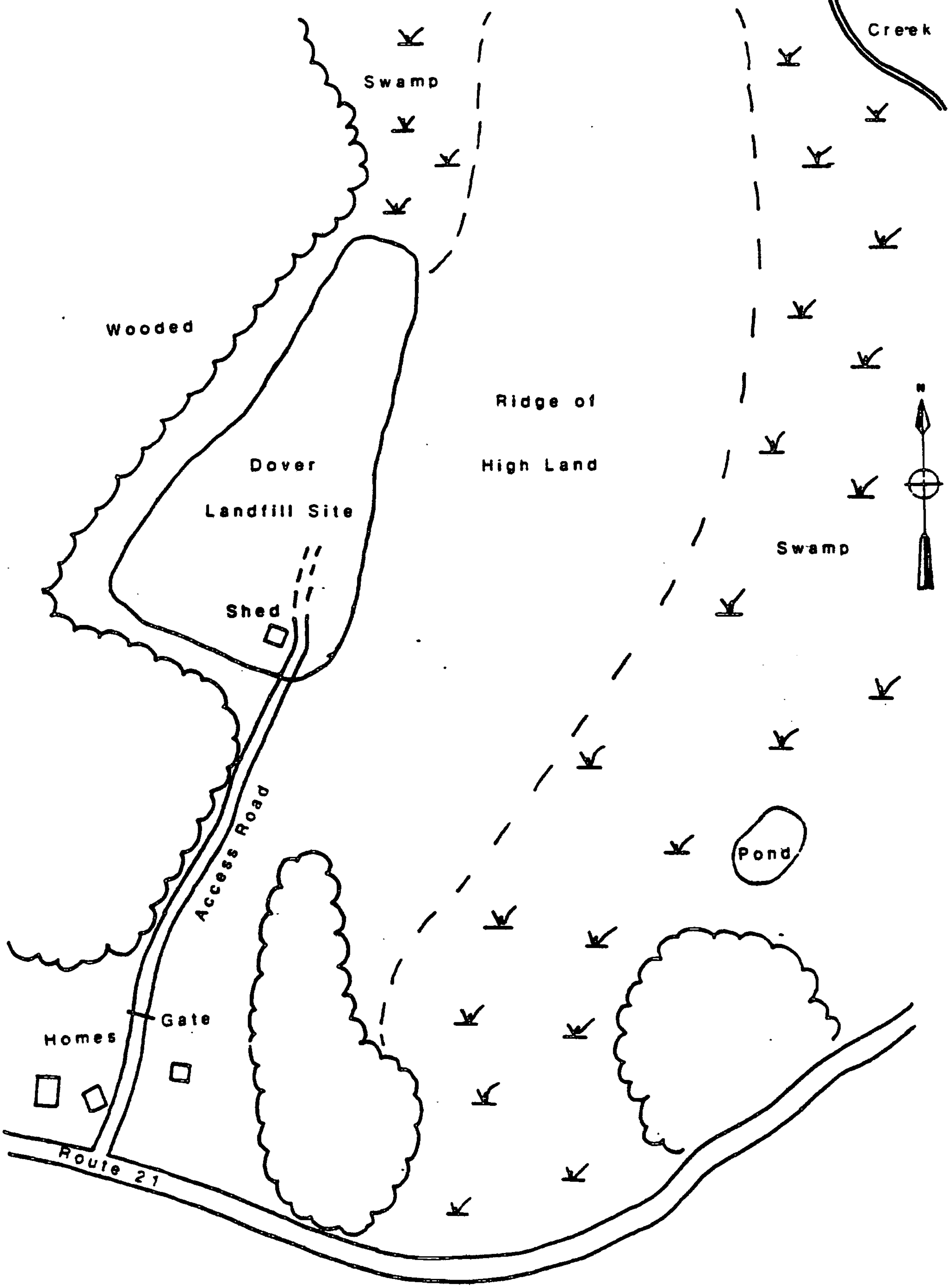


Figure 1-2. Site sketch. Dover Landfill site, 16 January 1985. (Not to scale.)

REFERENCE # 8
PAGE 12 OF 28

PHASE II ENVIRONMENTAL INVESTIGATION
TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
DOVER PLAINS, NEW YORK

Prepared For

Town of Dover

January 1991

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897

REFERENCE # 8
13 of 28

PHASE II ENVIRONMENTAL INVESTIGATION
TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
DOVER PLAINS, NEW YORK

INTRODUCTION

A June 12, 1989 letter from Franc Grabar of the New York State Department of Environmental Conservation (NYSDEC) to Diane Judson, Town Supervisor, addressed deficiencies in the Phase II investigation requirements prepared by Bibbo Associates (Bibbo) for the closure of the Dover landfill. Leggette, Brashears & Graham, Inc. (LBG) was retained by the Town of Dover to address these deficiencies. The proposed scope of work included: the determination of ground-water flow direction in the immediate vicinity of the landfill, an additional round of sampling for Target Compound List (TCL) parameters and any additional environmental sampling if applicable, an elevation survey, permeability testing of the wells, the completion of the HRS score, a health and safety plan, an electromagnetic terrain conductivity survey (EM survey) and a hydrogeologic evaluation of all the data. This report describes each step of the investigation and summarizes the results.

Site Location and History

The Town of Dover landfill is located north of Pleasant Ridge Road in the Hamlet of Wingdale (figure 1). The landfill reportedly began receiving solid waste from the Wingdale area in the mid 1940's. The landfill was operated by the Town of Dover in the early 1970's, receiving residential and a small quantity of commercial waste from within the town. Industrial waste and sludge were not permitted. There is no documentation of hazardous waste disposal at the landfill according to the EA Science and Technology's Phase I investigation report dated August 1986. The landfill was closed to the public in June of 1983. Since the closing, an interim soil cover has remained over the approximately 5 acres of filled area.

In 1986, the Town of Dover was issued, and entered into, an Order of Consent with the NYSDEC. The primary requirement was to close the landfill under the provisions of Part 360 of the NYCRR which governs the operation of solid waste management facilities. At that time, the Town of Dover retained Bibbo to prepare and implement a closure plan for the landfill and assist in completing the tasks of the Schedule of Compliance. Bibbo in turn retained LBG to assist in determining geologic and hydrogeologic characteristics of the site. Bibbo prepared a closure plan and schedule for closure, which was approved by the NYSDEC on April 10, 1986.

Bibbo submitted its "Engineers Report on Subsurface Conditions at the Town of Dover Landfill", included as Appendix I, on March 9, 1987. Subsequent review and comment of the report by the NYSDEC and Bibbo has led to the Town of Dover retaining LBG to complete outstanding Phase II requirements.

Site Characteristics

The Town of Dover landfill is situated on the western side of a north-south trending ridge. The area is characterized by extensive wetland areas interrupted by numerous low hills. The landfill slopes from east to west along the ridge, where the western edge of the landfill is surrounded by an extensive area of wetlands. The wetlands locally join the course of the Swamp River north of the site.

The bedrock underlying the landfill is classified as Stockbridge Marble, a thick sequence of Cambrian and Ordovician limestones and dolomites. This determination is supported by the geologic logs presented in the 1987 Bibbo report. Monitor well logs around the perimeter of the landfill indicate depths to bedrock range from about 12 to 48 feet. Overlying the bedrock, unconsolidated soils are mapped as glacial-till deposits and material weathered from the underlying limestone. The wetland soils are classified as Carlisle Muck and the soils on the ridge are classified as the Dover fine sandy loam.

Previous Investigations

Monitoring wells were constructed in 1986, under the supervision of Bibbo, to assess the quality of the ground water. Monitoring Wells MW-3, MW-4 and MW-5 were constructed downgradient of the landfill in the wetland area. Monitoring Well MW-1 was constructed on the upgradient ridge adjacent to the eastern side of the landfill. MW-2 was also located on the upgradient ridge and was constructed as a shallow sump. All of the wells were drilled to bedrock.

Determination of Ground-Water Flow Direction

On May 3, 1990, six shallow well points were installed in the swamp area to determine the localized ground-water flow directions. These temporary piezometers, PZ-1 through PZ-6, are located on plate 1. Each well point was hand augered to approximately five feet below grade and constructed of 2-inch diameter, Schedule-40 PVC casing and screen. A top of casing survey of well points and monitor wells, using both horizontal and vertical controls, was performed by a licensed surveyor to accurately compare ground-water levels. Water-level measurements taken from the well points and the existing monitoring wells are included as table 1. The ground-water contour map (plate 2), constructed using the ground-water levels, indicates that the localized ground water flows in a northerly direction away from the north section of the land filled area. This data supports the use of MW-1 as an upgradient background well for baseline water-quality data.

Health and Safety Plan

LBG's health and safety plan for sampling at the Dover landfill was submitted to, and approved by, Keith Brown of the NYSDEC in New Paltz, New York. The health and safety plan is included as Appendix II.

Sampling Program

On May 3 and 4, 1990, the existing monitor wells were completely redeveloped, using a submersible air-ejector pump for MW-1, and a suction pump for the remaining four wells, until the water was relatively turbid free. MW-2 and MW-4, low-yield wells, were evacuated until they ran dry. Water samples were collected from MW-1, MW-3, MW-4 and MW-5 on May 22, 1990. Due to the slow recovery rate of MW-2, sampling for this well took place from May 22 to 25, 1990.

Prior to sampling, three well volumes of water were removed from each well to ensure that the water collected was representative of the aquifer water quality. During this evacuation process, the pH, conductivity and temperature of the water was measured. The results are included as table 2. Each well was sampled using a dedicated stainless-steel bailer with a bottom-mounted Teflon check valve. All sample containers, including those for field and trip blanks, were laboratory prepared. The field blank was prepared with distilled water which passed through a dedicated bailer to demonstrate decontamination of the sampling equipment. The samples were chilled until their delivery to the laboratory. An additional environmental sample was obtained for chemical characterization from a seep, located on plate 1. All samples were analyzed for the TCL parameters.

Analytical Results

The laboratory analysis of the ground water from the monitor wells indicates that all compounds analyzed were below the New York State ground-water standards with the exception of iron. Iron was present in concentrations of 0.63, 0.97, 0.57 and 0.88 ppm (parts per million) in MW-1, MW-2, MW-4 and MW-5, respectively. The State ground-water standard for this compound is 0.3 ppm. Other compounds detected were aluminum, calcium, potassium, magnesium and sodium. None of these inorganic compounds have State ground-water standards. The State does advise that water with greater than 20 ppm of sodium, as is the case at MW-2 (24 ppm), should not be used for drinking by people on severely restricted sodium diets.

The previously detected aromatic hydrocarbons which included benzene, toluene, ethylbenzene and xylene (BTEX) in MW-2, and phenols in MW-2, MW-3, MW-4 and MW-5, were below the laboratory's detection limit in the latest sampling round.

Analysis of the leachate seep revealed volatile organic concentrations of benzene estimated at 4.4 ppb (parts per billion) and 1,3-dichlorobenzene at 5.2 ppb. The inorganic compounds iron and manganese were detected at 84 and 1.2 ppm, respectively. Other inorganic compounds detected include aluminum, calcium, magnesium and sodium.

Analytical results for LBG's and Bibbo's sampling rounds are summarized on table 3 for organic and table 4 for inorganic compounds detected in the ground water. Analytical results of the leachate seep are also included in the tables. The laboratory reports are presented in Appendix III.

<u>Permeability Testing</u>

Short duration "slug tests" were performed on May 25, 1990 for MW-1, MW-3, MW-4 and MW-5. The results were used to determine the water transmitting capacities of the surficial sediments. A known volume of water was displaced from the well and the rate of water-level recovery to static conditions was determined through the use of a pressure transducer and data logger. The data, analyzed by the Hvorslev method, was used to calculate the hydraulic conductivity of the wells.

Results of the test are shown in table 5. The hydraulic conductivity of MW-4 and MW-5 was used in conjunction with the water-table elevations to determine the rate of ground-water seepage in the landfill vicinity. The average seepage velocity was calculated at 0.03 ft/day (foot per day). Results from MW-1 were not used since the ground-water gradient was not determined in that area. In addition, MW-3 results were not used due to the artesian condition of the well.

HRS Score

LBG was informed by Amy Brockshu of the Environmental Protection Agency (EPA) that the HRS scoring system is in the process of final revisions. The HRS score calculated with the soon-to-be outdated score sheets will have no correlation with the new scoring system, and will be of little use once the new scoring system becomes effective. Therefore, LBG will complete the HRS score when the final version is available.

EM Survey

An EM survey was completed on May 4, 1990. The survey was conducted to determine if there are avenues of leachate migration which are not being addressed by the in-place monitoring network. A Geonics EM-31 terrain conductivity meter and Watanabe SR 6421 data recorder were used to complete the survey. These instruments require no contact with the earth, and over the area surveyed, provide a continuous record of terrain conductivity in units of mmhos/m (millimhos per meter). The depth of penetration of the EM-31 meter is approximately 20 feet, regardless of the electrical conductivity of the material probed. If the material over which a conductivity measurement is made is homogeneous to a depth of 20 feet, the value read on the EM-31 meter is the terrain conductivity of that volume of material. However, if layers of material with contrasting electrical properties exist beneath a station where terrain conductivity is recorded, the value measured is an apparent conductivity which is an average of the electrical conductivities of all layers to a depth of approximately 20 feet.

Data Interpretation

Several other factors can affect the value of conductivity measured. The electrical conductivity of most earth materials is relatively low while that of pore fluids is generally at least an order of magnitude greater. Therefore, the terrain conductivity of rocks and soils varies largely as a function of moisture content. The following general relationships are useful in interpreting EM survey data. Assuming that other factors remain equal, the greater the concentration of ions in solution in a fluid saturating a rock or sediment, the greater the resulting value of terrain conductivity; the more shallow the depth to water, the greater the value of terrain conductivity; clay and silt exhibit higher terrain conductivity than sand and gravel.

In addition to the causes for some natural variations in terrain conductivity, cultural features including metallic conductors such as fences, overhead power lines, culverts and buried or elevated tanks and drums can also affect the values measured. The magnitude of such an effect is dependent upon the size, depth of burial and horizontal distance to the cultural feature from the terrain conductivity measuring device. The electronics of the EM-31 are such that for values greater than about 70 mmhos/m, the response of the instrument is no longer linearly proportional to conductivity. In fact, at close proximity to metallic conductors the EM-31 meter deflects to a reading below 0 mmhos/m.

Results and Discussion

The survey was conducted along an 1,800-foot long traverse, roughly parallel to the northern and western slopes of the landfill. Marker flags were set up at 100-foot intervals along the traverse in order to gain some ground control. The results obtained during the EM survey indicate that there are four areas of higher than average conductivity. The average or background was found to be approximately 15 mmhos/m. One area in particular near the 300 foot marker along the traverse had a 22 mmhos/m reading. This indicates the possible presence of shallow plumes. Three other areas had values of approximately 18 mmhos/m. These also indicate the possible presence of shallow leachate plumes. Figure 2 shows the locations of all areas with higher than average conductivity readings. Other areas along the traverse with readings of less than 15 mmhos/m are not considered to be indicative of increased ionic concentrations due to leachate. Results of the EM survey are presented in table 6.

<u>Conclusions</u>

1. The ground water in the vicinity of the landfill flows from the north section of the landfill in a northerly direction.

2. Laboratory reports regarding sampling of the monitor wells for TCL parameters found all organic compounds to be below their respective detection limits. Iron was detected above the State standard at MW-1, MW-2, MW-4 and MW-5.

3. Additional environmental sampling of a leachate seep detected organic concentrations of benzene and inorganic concentrations of iron and manganese above the State standards.

4. Hydraulic conductivity of the wells, combined with the observed ground-water gradient and an estimated porosity, indicates that the rate of ground-water movement averages 0.03 ft/day.

5. The EM survey results show four areas of above average conductivity which may be indicative of shallow leachate plumes.

LEGGETTE, BRASHEARS & GRAHAM, INC.

Mary Palumbo

Mary Palumbo
Hydrologic Engineer

Keith Yocis
Hydrogeologist

Reviewed by:

Robert Lamonica

Robert Lamonica, CPG
Vice President

skd
January 21, 1991
dover/90-37

TABLE 1

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
DOVER PLAINS, NEW YORK

Water-Table Elevations on May 4, 1990

Location	Top of casing elevation (feet above mean sea level)	Depth to water (feet below top of casing)	Water-level elevation (feet above mean sea level)
MW-1	452.1	23.12	428.98
MW-2	452.6	9.70	442.90
MW-3	423.8	0.00	423.80
MW-4	422.3	2.46	419.84
MW-5	424.1	2.46	421.64
PZ-1	420.8	1.66	419.14
PZ-2	420.3	1.03	419.27
PZ-3	420.7	1.46	419.24
PZ-4	421.4	0.90	420.50
PZ-5	424.3	2.86	421.44
PZ-6	423.6	3.10	420.50

dover/90-37

TABLE 2

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
DOVER PLAINS, NEW YORK

Ground-Water Characteristics on May 22, 1990

Sample location	pH	Conductivity (umhos)	Temperature (°C)
MW-1	7.1	42	11.0
MW-2	7.7	420	12.5
MW-3	7.7	270	11.5
MW-4	6.70	285	11.5
MW-5	6.85	315	12.0
Seep	7.2	1,500	13.0

dover/90-37

TABLE 3

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
DOVER PLAINS, NEW YORK

Summary of Organic Compounds Detected in Ground Water[1]
ug/l

	MW-1		MW-2		MW-3		MW-4		MW-5		Seep	New York State Ground-Water Standard
	12/3/86[2]	6/22/90[3]	12/3/86	6/22-25/90	12/3/86	6/22/90	12/3/86	6/22/90	12/3/86	6/22/90	6/22/90	
Benzene	BDL[4]	BDL	100	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.4[5]	not detectable
Toluene	BDL	BDL	600	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--[6]
Ethylbenzene	BDL	BDL	47	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--
Xylenes	BDL	BDL	260	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--
Phenol	BDL	BDL	30	BDL	11	BDL	16	BDL	11	BDL	5.2	1
1,3-Dichloro-benzene	*[7]	BDL	*	BDL	*	BDL	*	BDL	*	BDL	10	--
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--
Methylene Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.6[5]	BDL	--

1/ Table lists only samples where chemicals were detected and only the results for those chemicals. Samples in which no chemicals were detected and chemicals that were below the detection limit for all samples are not listed.
2/ Bibbo Associates samples.
3/ LBG samples.
4/ Below detection limit.
5/ Estimated value.
6/ No regulatory standard.
7/ Not analyzed.

REFERENCE # 8
PAGE 24 OF 28

LEGGETTE, BRASHEARS & GRAHAM, INC.

TABLE 4

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
DOVER PLAINS, NEW YORK

Summary of Inorganic Compounds Detected in Ground Water1/
mg/l

	MW-1		MW-2		MW-3		MW-4		MW-5		Seep	New York State Ground-Water Standards
	12/5/86 2/	4/22/90 3/	12/5/86	4/22-25/90	12/5/86	4/22/90	12/5/86	4/22/90	12/5/86	4/22/90	4/22/90	
Aluminum	BDL 4/	0.79	11.4	0.67	BDL	0.47	BDL	0.68	BDL	1.1	1.8	--5/
Calcium	53.1	70	129	53	43	43	39.7	47	47.8	53	170	--
Iron	BDL	0.63	36	0.97	BDL	BDL	BDL	0.57	BDL	0.88	84	0.3
Magnesium	20.8	37	87	28	16.7	18	16.9	21	20.2	26	100	--
Manganese	0.04	BDL	0.63	BDL	0.03	BDL	0.04	BDL	0.02	BDL	1.2	0.3
Potassium	*6/	0.82	*	12	*	5.6	*	4.0	*	3.3	50	--
Sodium	3.3	1.7	3.2	26 7/	2.5	1.8	3.3	2.8	3.0	1.9	110 7/	--

1/ Table lists only samples where chemicals were detected and only the results for those chemicals. Samples in which no chemicals were detected and chemicals that were below the detection limit for all samples are not listed.
2/ Bibbo Associates samples.
3/ LBG samples.
4/ Below detection limit.
5/ No regulatory standard.
6/ Not analyzed.
7/ Water containing greater than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets.

REFERENCE 8
PAGE 25 OF 28

LEGGETTE, BRASHEARS & GRAHAM, INC.

TABLE 5

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
DOVER PLAINS, NEW YORK

Permeability Test Results

Well	Hydraulic Conductivity (ft/day)
MW-1	0.635
MW-3	6.00
MW-4	0.417
MW-5	0.417

dover/90-37

TABLE 6

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
DOVER PLAINS, NEW YORK

Electromagnetic Terrain Conductivity Survey Results

Survey point	Conductivity (mmhos/m)
EM100	9.25
EM200	15.50
EM300	22.00 1/
EM400	16.00
EM500	15.50
EM600	16.00
EM700	17.25 1/
EM800	16.00
EM900	15.00
EM1000	16.25
EM1100	18.50 1/
EM1200	15.75
EM1300	15.50
EM1400	15.00
EM1500	17.50 1/
EM1600	17.00
EM1700	16.00
EM1800	13.50

1/ Maximum conductivity in area of possible shallow leachate plume.

dover/90-37

REFERENCE # 8
PAGE 28 OF 28

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233 7010

Thomas C. Jorling
Commissioner

MAY 09 1991

Mr. Leo Mastrochetti
Mountain Road,
Wingdale, NY 12594

Dear Mr. Mastrochetti:

Re: DEC Site No.: 314066
Site Name: Dover Landfill, Mountain Road
Site Address: Mountain Road
Wingdale, New York 12594

As mandated by Section 27-1305 of the Environmental Conservation Law, the New York State Department of Environmental Conservation (NYSDEC) must maintain a registry of all disposal sites suspected or known to contain hazardous wastes. It is this Department's procedure to notify the owner of all or any part of each site or area included in the Registry of Inactive Hazardous Waste Disposal Sites as to changes in site classification.

Our records indicate that you are the owner or part-owner of the above-referenced site. Based on the information that has been gathered to date, the NYSDEC has not identified any hazardous wastes at this site. Therefore, this letter constitutes notification of deletion of such site from the Registry of Inactive Hazardous Waste Disposal Sites in New York State. The site will not appear in future registries, unless information is brought to our attention which justifies relisting the site.

If you have any further questions, please contact Mr. Robert L. Marino, Chief, Site Control Section, Bureau of Hazardous Site Control at (518) 457-0747.

Sincerely,

Earl H. Barcomb, P.E.
Director
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation

REFERENCE 9

REFERENCE # 9
PAGE 1 OF 1

Wehran EMCON Northeast

TELEPHONE CONVERSATION MEMORANDUM

Client: Ebasco - ARCS II
Project: Dover Landfill No. 2
Proj. No.: 04828.01
Date: 2-9-95
Time: 4:00 pm
Call To/From: Joe Buschynski
Representing: Bibbo Associates
Phone No.: 914-277-5805

Summary of Conversation: Mr. Buschynski informed me that the zoning law for the Dover Landfill No. 2 property is R-80, which means that the area is zoned residential for a family, with a minimum lot size of 80,000 square feet

Copies To: File

By: D. Bolner

REFERENCE 10

REFERENCE # 10
PAGE 1 OF 24

BIBBO ASSOCIATES
CONSULTING ENGINEERS-PLANNERS
ROUTE 22 & HARDSCRABBLE ROAD
CROTON FALLS, NEW YORK 10519

LEONARD J. BIBBO, P.E.
JOHN P. McNAMARA, P.E.
•
JOSEPH J. BUSCHYNSKI, P.E.

PLANNING
SITE DESIGN
ENVIRONMENTAL
•
(914) 277-5805

RECEIVED JUL 1 NYS DEC REGION 3

July 8, 1987

RECEIVED
JUL 17 1987
BUREAU OF HAZARDOUS SITE CONTROL DIVISION OF SOLID AND HAZARDOUS WASTE

New York State
Department of Environmental Conservation
21 So. Putt Corners Road
New Paltz, New York 12561

ATTN: Mr. Lawrence Gallagher

#314066.

RE: Dover Landfill
Ground Water Analysis

Dear Mr. Gallagher:

Enclosed please find a copy of the results of the second complete water analysis from the monitoring wells at the referenced landfill.

The results indicate that the landfill is not adversely affecting the ground water beneath it. Traces of benzene and toluene continue to exist in the shallow sump (Well #2) although the concentrations are greatly reduced from the initial sampling.

I will call you in the near future to discuss the procedure for having the sampling list and frequency of analysis reduced as provided in the Consent Order. Assuming that the landfill will be removed from the suspected hazardous waste list as a result of the second analysis, we would also like to proceed with an application for funding under the Bond Act for the remaining closure work. Your guidance on this matter will be greatly appreciated.

Very truly yours,

Joseph J. Buschynski

Joseph J. Buschynski, P. E.

JJB/db
Enc.

CAMO LABORATORIES

A DIVISION OF CAMO POLLUTION CONTROL, INC.

POUGHKEEPSIE AREA FACILITY:
CAMO LABORATORY
367 VIOLET AVENUE
POUGHKEEPSIE, N.Y. 12601
(914) 473-9200

June 30, 1987

Dear Client:

Enclosed please find your sample results and our invoice for services rendered.

All analytical methods comply with those specified in APHA "Standard Methods" and/or EPA "Approved Methods".

If you have any questions, please do not hesitate to contact us.

We hope our services are to your satisfaction and, we look forward to doing future business with you.

Very truly yours,

CAMO Laboratories

J F Eisenhardt

John F. Eisenhardt
Director of
Measurement Services

JFE/sam

CAMO LABORATORIES
367 VIOLET AVENUE
POUGHKEEPSIE, NEW YORK 12601
(914) 473-9200
FED. I.D. #14-1514539
NYS LAB ID NO.: 10310

Bibbo Associates
Route 22
Hardscrabble Road
Croton Falls, New York 10519

Date of Invoice: 06-29-87
P.O. #:
Job #:
Invoice #: 87-6-2707

Facility: Town of Dover Landfill

Analytical Report

Date Samples Collected: 06-12-87
Date Samples Received: 06-12-87
Samples Collected By: CAMO Lab
Samples Delivered By: CAMO Lab
Matrix: Water

Sample Identification

A. Well #1
B. Well #2
C. Well #3
D. Well #4
E. Well #5

Parameters	Unit/ Measure	A	B	C	D	E
Baseline Water						
Method 624	ug/L	*	*	*	*	*
Acid Extractables	ug/L	*	*	*	*	*
Base Neutral Extractables	ug/L	*	*	*	*	*
Pesticides	ug/L	*	*	*	*	*
PCB's	ug/L	*	*	*	*	*
Priority Pollutant Metals	mg/L	*	*	*	*	*
Well Depths		*	*	*	*	*

Analysis Comments: * See Attached Tables and Invoice.

Analytical Methods: All analytical methods comply with those specified in APHA "Standard Methods" and/or EPA approved methuds.

CAMO LOG NO.: 87-6-2707

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #2	C Well #3	D Well #4	E Well #5
Phenols (ug/L)	<10	<10	<10	<10	<10
Cyanide	<0.02	<0.02	<0.02	<0.02	<0.02
Boron	0.1	0.1	0.1	0.5	0.1
TKN	0.34	1.26	0.06	0.78	0.42
Ammonia	0.20	0.66	0.10	0.26	0.23
Nitrate	0.03	<0.02	<0.02	<0.02	<0.02
BOD(5)	1	4	2	17	5
COD	10	32	5	23	22
TOC	2.0	11.0	37.6	84.2	1.5
TDS	240	270	236	188	194
Sulfate	28	24	18	800 *	290
Aluminum	<0.5	<0.5	<0.5	<0.5	<0.5
Hexavalent Chromium	<0.05	<0.05	<0.05	<2.5	<2.5
Sodium	2.3	57.2	2.8	2.8	2.6
Detergent	<0.1	<0.1	<0.1	<0.1	<0.1

NOTE: All results expressed in mg/L unless noted otherwise.

CAMO LOG NO.: 87-6-2707

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #2	C Well #3	D Well #4	E Well #5
Calcium	90.6	42.0	15.0	37.0	36.4
Alkalinity (as CaCO(3))	211	300	179	383	376
Color (Pt/Co)	5	10	5	>5000	>5000
Odor (TON)	1	10	2	10	1
Turbidity (NTU)	79	31	0.96	>1000	>1000
Hardness (as CaCO(3))	311.8	152.7	96.9	156.6	166.7
Magnesium	20.8	11.6	14.5	15.6	18.4
Chloride	3	2	2	2	2
Iron	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese	<0.01	0.04	0.01	0.06	<0.01
Specific Conductivity (umhos/cm)	340	592	311	310	343
TVS	100	36	18	170	282
pH (Std.)	7.7	7.9	7.3	7.8	7.7

NOTE: All results expressed in mg/L unless noted otherwise.

CAMG LOG NO.: 87-6-2707

VOLATILES

PARAMETERS	SAMPLE IDENTIFICATIONS A Well #1	B Well #2	C Well #3	D Well #4	E Well #5
Chloromethane	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1
Vinyl Chloride	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1
Methylene Chloride	<1	<1	<1	<1	<1
Xylene	<3	<3	<3	<3	<3
1,1-Dichloroethylene	<1	<1	<1	<1	<1
1,1-Dichloroethane	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1
Dichlorodifluoromethane	<1	<1	<1	<1	<1
Chloroform	2	<1	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<1
Carbon Tetrachloride	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<1

NOTE: All results expressed in ug/L unless noted otherwise.

CAMO LOG NO.: 87-6-2707

VOLATILES

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #2	C Well #3	D Well #4	E Well #5
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1
Trichloroethylene	<1	<1	<1	<1	<1
Dibromochloromethane	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1	<1	<1	<1	<1
Benzene	<1	3	<1	<1	<1
2-Chloroethylvinyl Ether	<10	<10	<10	<10	<10
Bromoform	<5	<5	<5	<5	<5
Tetrachloroethylene	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1
Toluene	<1	2	<1	<1	<1
Chlorobenzene	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1
Acrolein	<100	<100	<100	<100	<100
Acrylonitrile	<100	<100	<100	<100	<100

NOTE: All results expressed in ug/L unless noted otherwise.

CAMO LOG NO.: 87-6-2707

ACID EXTRACTABLE ORGANIC COMPOUNDS

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #2	C Well #3	D Well #4	E Well #5
Phenol	<10	<10	<10	<10	<10
2-Nitrophenol	<10	<10	<10	<10	<10
4-Nitrophenol	<50	<50	<50	<50	<50
2,4-Dinitrophenol	<50	<50	<50	<50	<50
4,6-Dinitro-o-cresol	<50	<50	<50	<50	<50
Pentachlorophenol	<50	<50	<50	<50	<50
p-Chloro-m-cresol	<10	<10	<10	<10	<10
2-Chlorophenol	<10	<10	<10	<10	<10
2,4-Dichlorophenol	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10
2,4-Dimethylphenol	<10	<10	<10	<10	<10

NOTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 87-6-2707

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

PARAMETERS	SAMPLE IDENTIFICATIONS A Well #1	B Well #2	C Well #3	D Well #4	E Well #5
1,2 Dichlorobenzene	<10	<10	<10	<10	<10
1,3 Dichlorobenzene	<10	<10	<10	<10	<10
1,4 Dichlorobenzene	<10	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10	<10
1,2,4 Trichlorobenzene	<10	<10	<10	<10	<10
Bis(2-Chloroethoxy) Methane	<10	<10	<10	<10	<10
Naphthalene	<10	<10	<10	<10	<10
2-Chloronaphthalene	<10	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10	<10
2,4 Dinitrotoluene	<10	<10	<10	<10	<10
2,6 Dinitrotoluene	<10	<10	<10	<10	<10
4-Bromophenyl Phenyl Ether	<10	<10	<10	<10	<10
Bis(2-Ethylhexyl) Phthalate	<10	<10	<10	<10	<10
Di-n-octyl Phthalate	<10	<10	<10	<10	<10

NOTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 87-6-2707

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #2	C Well #3	D Well #4	E Well #5
Dimethyl phthalate	<10	<10	<10	<10	<10
Diethyl phthalate	<10	<10	<10	<10	<10
Di-n-butyl phthalate	<10	<10	<10	<10	<10
Fluorene	<10	<10	<10	<10	<10
Fluoranthene	<10	<10	<10	<10	<10
Chrysene	<10	<10	<10	<10	<10
Pyrene	<10	<10	<10	<10	<10
Phenanthrene	<10	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10	<10
Benzo(a)anthracene	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10	<10
Benzo(a)pyrene	<10	<10	<10	<10	<10
Indeno(1,2,3-c,d)pyrene	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10

NOTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 87-6-2707

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #2	C Well #3	D Well #4	E Well #5
4-Chlorophenyl Phenyl Ether	<10	<10	<10	<10	<10
3,3' Dichlorobenzidine	<20	<20	<20	<20	<20
Benzidine	<80	<80	<80	<80	<80
bis(2-Chloroethyl)ether	<10	<10	<10	<10	<10
1,2-Diphenylhydrazine	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10
N-Nitrosodiphenylamine	<10	<10	<10	<10	<10
Acenaphthylene	<10	<10	<10	<10	<10
Acenaphthene	<10	<10	<10	<10	<10
Butyl benzyl phthalate	<10	<10	<10	<10	<10
N-Nitrosodimethylamine	<10	<10	<10	<10	<10
Nitrosodi-n-propylamine	<10	<10	<16	<10	<10
bis(2-Chloroisopropyl)ether	<10	<10	<10	<10	<10

NOTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 87-6-2707

PESTICIDES

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #2	C Well #3	D Well #4	E Well #5
I - Endosulfan	<0.1	<0.1	<0.1	<0.1	<0.1
II - Endosulfan	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulfate	<0.1	<0.1	<0.1	<0.1	<0.1
α - BHC	<0.1	<0.1	<0.1	<0.1	<0.1
β - BHC	<0.1	<0.1	<0.1	<0.1	<0.1
A - BHC	<0.1	<0.1	<0.1	<0.1	<0.1
γ - BHC	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	<0.1	<0.1	<0.1	<0.1	<0.1
4,4'-DDE	<0.1	<0.1	<0.1	<0.1	<0.1
4,4'-DDD	<0.1	<0.1	<0.1	<0.1	<0.1
4,4'-DDT	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor Epoxide	<0.1	<0.1	<0.1	<0.1	<0.1
Chlordane	<2.0	<2.0	<2.0	<2.0	<2.0
Toxaphene	<2.0	<2.0	<2.0	<2.0	<2.0

NOTE: All results expressed in ug/L unless noted otherwise.

CAMO LOG NO.: 87-6-2707

PCB'S

PARAMETERS	A Well #1	B Well #2	C Well #3	D Well #4	E Well #4
Aroclor 1016	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1221	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1232	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1242	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1260	<0.5	<0.5	<0.5	<0.5	<0.5

SAMPLE IDENTIFICATIONS

NOTE: All results expressed in ug/L unless noted otherwise.

CAMO LOG NO.: 67-6-2707

PRIORITY POLLUTANT METALS

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #2	C Well #3	D Well #4	E Well #5
Antimony	<0.01	<0.01	<0.01	<0.01	<0.01
Arsenic	<0.005	0.005	<0.005	0.005	<0.005
Beryllium	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	0.01	0.01	0.01	0.01	0.31
Chromium	<0.03	<0.03	<0.03	<0.03	<0.03
Copper	0.02	0.02	0.02	0.01	0.02
Lead	0.007	0.013	<0.005	<0.005	<0.005
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.01	<0.01	<0.01	<0.01	<0.01
Thallium	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	0.08	0.07	0.06	0.06	0.06

NOTE: All results expressed in mg/L unless noted otherwise.

CAMO LOG NO.: 87-6-2707

ACID EXTRACTABLE ORGANIC COMPOUNDS

PARAMETERS	SAMPLE IDENTIFICATIONS Extraction Spike ERA #512
Phenol	--
2-Nitrophenol	--
4-Nitrophenol	--
2,4-Dinitrophenol	--
4,6-Dinitro-o-cresol	--
Pentachlorophenol	--
p-Chloro-m-cresol	--
2-Chlorophenol	--
2,4-Dichlorophenol	63%
2,4,6-Trichlorophenol	--
2,4-Dimethylphenol	48%

NOTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 87-6-2707

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

PARAMETERS	SAMPLE IDENTIFICATIONS Extraction Spike ERA #512
1,2 Dichlorobenzene	--
1,3 Dichlorobenzene	--
1,4 Dichlorobenzene	--
Hexachloroethane	--
Hexachlorobutadiene	--
Hexachlorobenzene	--
1,2,4 Trichlorobenzene	87%
Bis(2-Chloroethoxy) Methane	--
Naphthalene	74%
2-Chloronaphthalene	110%
Isophorone	--
Nitrobenzene	--
2,4 Dinitrotoluene	--
2,6 Dinitrotoluene	--
4-Bromophenyl Phenyl Ether	--
Bis(2-Ethylhexyl) Phthalate	103%
Di-n-octyl Phthalate	--

NOTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 87-6-2707

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

PARAMETERS	SAMPLE IDENTIFICATIONS Extraction Spike ERA #512
Dimethyl phthalate	--
Diethyl phthalate	--
Di-n-butyl phthalate	--
Fluorene	--
Fluoranthene	--
Chrysene	--
Pyrene	--
Phenanthrene	83%
Anthracene	--
Benzo(a)anthracene	--
Benzo(b)fluoranthene	--
Benzo(k)fluoranthene	--
Benzo(a)pyrene	--
Indeno(1,2,3-c,d)pyrene	--
Dibenzo(a,h)anthracene	--
Benzo(g,h,i)perylene	--

NOTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 87-6-2767

PESTICIDES

PARAMETERS	SAMPLE IDENTIFICATIONS
	Well #1 Dupe
I - Endosulfan	<0.1
II - Endosulfan	<0.1
Endosulfan Sulfate	<0.1
α - BHC	<0.1
β - BHC	<0.1
A - BHC	<0.1
γ - BHC	<0.1
Aldrin	<0.1
Dieldrin	<0.1
4,4'-DDE	<0.1
4,4'-DDD	<0.1
4,4'-DDT	<0.1
Endrin	<0.1
Endrin Aldehyde	<0.1
Heptachlor	<0.1
Heptachlor Epoxide	<0.1
Chlordane	<0.1
Toxaphene	<0.1

NOTE: All results expressed in ug/L unless noted otherwise.

CAMO LOG NO.: 87-6-2707

PCB'S

PARAMETERS	SAMPLE IDENTIFICATIONS
	Well #1 Dupe
Aroclor 1016	<0.5
Aroclor 1221	<0.5
Aroclor 1232	<0.5
Aroclor 1242	<0.5
Aroclor 1248	<0.5
Aroclor 1254	<0.5
Aroclor 1260	<0.5

NOTE: All results expressed in ug/L unless noted otherwise.

LL #	DEPTH	STATIC	H_2O COLUMN	WELL DIAMETER	GALLONS OF H_2O IN WELL	GALLONS OF H_2O EVACUATED	EVAC. METHOD	DATE FILTERED	BY	COMMENTS
1	46.25'	25.22'	21.03'	4"	13.4	54	Submersible Pump			
2	9.81'	7.67'	2.14'	4"	1.4	No Evacuation	Bailer			
3	49.0'	Artesian	49.0'	2.5"	24.6	No Evacuation Self Evacuating	Bailer			
4	14.6'	2.81'	11.79'	2.5"	5.9	24	Bailer			
5	22.45'	2.79'	19.66'	2.5"	9.9	40	Bailer			

REFERENCE # 10
PAGE 20 OF 24

FORMULA FOR WELL VOLUME:

$$\frac{3.14\ (d^2)\ ^*}{4} \times \begin{matrix}\text{HEIGHT}\\ \text{OF } H_2O\\ \text{COLUMN}\end{matrix} = FT^3$$

$$FT^3 \times 7.48 = \text{GALLONS}$$

* IMPORTANT: WELL DIAMETER (d) IS IN FEET, NOT INCHES.

NOTE

1. IF WELL DIAMETER IS 2"; THEN 0.16265 x HEIGHT OF H_2O COLUMN = GALLONS
2. IF WELL DIAMETER IS 3"; THEN 0.3664 x HEIGHT OF H_2O COLUMN = GALLONS
3. IF WELL DIAMETER IS 4"; THEN 0.63944 x HEIGHT OF H_2O COLUMN = GALLONS
4. IF WELL DIAMETER IS 6"; THEN 1.46795 x HEIGHT OF H_2O COLUMN = GALLONS

REFERENCE # 10
PAGE 22 OF 24

CAMO LABORATORIES

367 Violet Avenue
Poughkeepsie, N.Y. 12601

Miles: 62
Hours: 5 1/2 X 2 PEOPLE

CHAIN OF CUSTODY

CLIENT				SAMPLER				
DOVER LANDFILL (BIBBO)				J. HURLEY, W.M. RITCHIE				
SAMPLE NO.	SAMPLE ID, LOCATION CONTAINER	DATE	TIME A=a.m. P=p.m.	MATRIX	Comp.	Grab	No. of CONT'S	ANALYSIS REQUIRED
1	WELL 1 2 QT PL UNP, 1 GLASS GALLON UNP, 1 PINT GLASS H_2SO_4, 1 PLASTIC PINT NAOH, 2 VOA	6/12/87		H_2O		1	7	
2	WELL 2 - SAME AS ABOVE	6/12/87		H_2O		1	7	
3	WELL 3 - " " "	6/12/87		H_2O		1	7	
4	WELL 4 - " " "	6/12/87		H_2O		1	7	
5	WELL 5 - " " "	6/12/87		H_2O		1	7	

Relinquished by:	Received by: W M Ritchie	Date/Time 6/12/87
Relinquished by:	Received by:	Date/Time
Dispatched by: Date/Time	Received for Laboratory by: Eva Quaros	Date/Time 6/11/87

Method of Shipment:

Miles: 62

Hours: 5½ X2 PEOPLE

CAMO LABORATORIES

FIELD COLLECTION SHEET

J. HURLY
W. McRITCHIE

JOB #

CLIENT DOVER LANDFILL (BIBBO) DATE 6/12/87 COLLECTED BY

Sample Pt - WELL 1

Sample I.D. -

Time Collected -

Weather - RAINY

Containers Filled -

2 VOA
2 QT PL UNP
1 GL GL UNP
1 GL PT H_2SO_4
1 PL PT NAOH

Sampling Procedure

✓ Grab O Composite (Hrs.___)

Equipment Used -

SUBMERSIBLE PUMP
BAILER

Observations -

CONDT- 340 umhos/cm

PH- 7.7

Sample Pt - WELL 2

Sample I.D. -

Time Collected -

Weather - RAINY

Containers Filled -

2 VOA
2 QT PL UNP
1 GL GL UNP
1 GL PT H_2SO_4
1 PL PT NAOH

Sampling Procedure

✓ Grab O Composite (Hrs.___)

Equipment Used -

BAILER

Observations -

CONDT- 592 umhos/cm

PH- 7.9

Sample Pt - WELL 3

Sample I.D. -

Time Collected -

Weather - RAINY

Containers Filled -

2 VOA
2 QT PL UNP
1 GL GL UNP
1 GL PT H_2SO_4
1 PL PT NAOH

Sampling Procedure

✓ Grab O Composite (Hrs.___)

Equipment Used -

BAILER

Observations -

CONDT- 311 umhos/cm

PH- 7.8

REFERENCE # 10
PAGE 23 OF 24

Miles: 62

Hours: 5½ X 2 PEOPLE

CAMO LABORATORIES

FIELD COLLECTION SHEET

JOB #

CLIENT DOVER LANDFILL (BIBBO)

DATE 6/12/87

J. HURLY
W. McRITCHIE
COLLECTED BY

Sample Pt - WELL 4

Sample I.D. -

Time Collected -

Weather - RAINY

Containers Filled -
2 VOA
2 Qt R UNP
1 GL GL UNP
1 GL Pt H_2SO_4
1 R Pt NAOH

Sampling Procedure

✓ Grab O Composite (Hrs.___)

Equipment Used -

BAILER

Observations -

CONDT- 310 umhos/cm

PH- 7.8

Sample Pt - WELL 5

Sample I.D. -

Time Collected -

Weather - RAINY

Containers Filled -
2 VOA
2 Qt R UNP
1 GL GL UNP
1 GL Pt H_2SO_4
1 R Pt NAOH

Sampling Procedure

✓ Grab O Composite (Hrs.___)

Equipment Used -

BAILER

Observations -

CONDT- 343 umhos/cm

PH- 7.7

Sample Pt -

Sample I.D. -

Time Collected -

Weather -

Containers Filled -

Sampling Procedure

O Grab O Composite (Hrs.___)

Equipment Used -

Observations -

REFERENCE # 10
PAGE 24 OF 24

REFERENCE 11

REFERENCE # — 11 —
PAGE 1 OF 1

Wehran EMCON
Northeast

TELEPHONE CONVERSATION MEMORANDUM

Client: Fraser
Proj. No.: 04829.01
Project: ARS Program
Dover Town Dump/Landfill #2
Date: 1-25-95
Time: 10:05 am
Call To/From: Jim Napier
Representing: Dutchess County Health Department
Phone No.: 914-431-1644

Summary of Conversation: Asked Mr. Napier about the delineations of wellhead protection areas in Dutchess County. He said that there are no set wellhead protection areas in the Dutchess County. As a rule of thumb the county uses the 200 ft radius around a public well in bedrock rule, established by the State of New York.

Copies To: File ~ Dover Town Dump
By: D. Bolner

REFERENCE 12

REFERENCE # 12
PAGE 1 OF 125

DRAFT

PHASE II ENVIRONMENTAL INVESTIGATION
TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
WINGDALE, NEW YORK

Prepared For

Town of Dover

November 1990

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897

TABLE OF CONTENTS

LIST OF TABLES
(at end of report)

LIST OF FIGURES
(at end of report)

LIST OF PLATES
(in pocket)

PHASE II ENVIRONMENTAL INVESTIGATION
TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
WINGDALE, NEW YORK

INTRODUCTION

A June 12, 1989 letter from Franc Grabar of the New York State Department of Environmental Conservation (NYSDEC) to Diane Judson, Town Supervisor, addressed deficiencies in the Phase II investigation requirements prepared by Bibbo Associates (Bibbo) for the closure of the Dover landfill. Leggette, Brashears & Graham, Inc. (LBG) was retained by the Town of Dover to address these deficiencies. The proposed scope of work included: the determination of ground-water flow direction in the immediate vicinity of the landfill, an additional round of sampling for Target Compound List (TCL) parameters and any additional environmental sampling if applicable, an elevation survey, permeability testing of the wells, the completion of the HRS score, a health and safety plan, an electromagnetic terrain conductivity survey (EM survey) and a hydrogeologic evaluation of all the data. This report describes each step of the investigation and summarizes the results.

Site Location and History

The Town of Dover landfill is located north of Pleasant Ridge Road in the Town of ~~Wingdale~~ Dover (figure 1). The landfill reportedly began receiving solid waste from the Wingdale area in the mid 1940's. The landfill was operated by the Town of Dover in the early 1970's, receiving residential and a small quantity of commercial waste from within the town. Industrial waste and sludge were not permitted. There is no documentation of hazardous waste disposal at the landfill according to the EA Science and Technology's Phase I investigation report dated August 1986. The landfill was closed to the public in June of 1983. Since the closing, an interim soil cover has remained over the approximately 5 acres of filled area.

In 1986, the Town of Dover was issued, and entered into, an Order of Consent with the NYSDEC. The primary requirement was to close the landfill under the provisions of Part 360 of the NYCRR which governs the operation of solid waste management facilities. At that time, the Town of Dover retained Bibbo to prepare and implement a closure plan for the landfill and assist in completing the tasks of the Schedule of Compliance. Bibbo in turn retained LBG to assist in determining geologic and hydrogeologic characteristics of the site. Bibbo prepared a closure plan and schedule for closure, which was approved by the NYSDEC on April 10, 1986.

Bibbo submitted its "Engineers Report on Subsurface Conditions at the Town of Dover Landfill", included as Appendix I, on March 9, 1987. Subsequent review and comment of the report by the NYSDEC and Bibbo has led to the Town of Dover retaining LBG to complete outstanding Phase II requirements.

Site Characteristics

The Town of Dover landfill is situated on the western side of a north-south trending ridge. The area is characterized by extensive wetland areas interrupted by numerous low hills. The landfill slopes from east to west along the ridge, where the western edge of the landfill is surrounded by an extensive area of wetlands. The wetlands locally join the course of the Swamp River north of the site.

The bedrock underlying the landfill is classified as Stockbridge Marble, a thick sequence of Cambrian and Ordovician limestones and dolomites. This determination is supported by the geologic logs presented in the 1987 Bibbo report. Monitor well logs around the perimeter of the landfill indicate depths to bedrock range from about 12 to 48 feet. Overlying the bedrock, unconsolidated soils are mapped as glacial-till deposits and material weathered from the underlying limestone. The wetland soils are classified as Carlisle Muck and the soils on the ridge are classified as the Dover fine sandy loam.

Previous Investigations

Monitoring wells were constructed in 1986, under the supervision of Bibbo, to assess the quality of the ground water. Monitoring Wells MW-3, MW-4 and MW-5 were constructed downgradient of the landfill in the wetland area. Monitoring Well MW-1 was constructed on the upgradient ridge adjacent to the eastern side of the landfill. MW-2 was also located on the upgradient ridge and was constructed as a shallow sump. All of the wells were drilled to bedrock.

Determination of Ground-Water Flow Direction

On May 3, 1990, six shallow well points were installed in the swamp area to determine the localized ground-water flow directions. These temporary piezometers, PZ-1 through PZ-6, are located on plate 1. Each well point was hand augered to approximately five feet below grade and constructed of 2-inch diameter, Schedule-40 PVC casing and screen. A top of casing survey of well points and monitor wells, using both horizontal and vertical controls, was performed by a licensed surveyor to accurately compare ground-water levels. Water-level measurements taken from the well points and the existing monitoring wells are included as table 1. The ground-water contour map (plate 2), constructed using the ground-water levels, indicates that the localized ground water flows in a northerly direction away from the north section of the land filled area. This data supports the use of MW-1 as an upgradient background well for baseline water-quality data.

Health and Safety Plan

LBG's health and safety plan for sampling at the Dover landfill was submitted to, and approved by, Keith Brown of the NYSDEC in New Paltz, New York. The health and safety plan is included as Appendix II.

Sampling Program

On May 3 and 4, 1990, the existing monitor wells were completely redeveloped, using a submersible air-ejector pump for MW-1, and a suction pump for the remaining four wells, until the water was relatively turbid free. MW-2 and MW-4, low-yield wells, were evacuated until they ran dry. Water samples were collected from MW-1, MW-3, MW-4 and MW-5 on May 22, 1990. Due to the slow recovery rate of MW-2, sampling for this well took place from May 22 to 25, 1990.

Prior to sampling, three well volumes of water were removed from each well to ensure that the water collected was representative of the aquifer water quality. During this evacuation process, the pH, conductivity and temperature of the water was measured. The results are included as table 2. Each well was sampled using a dedicated stainless-steel bailer with a bottom-mounted Teflon check valve. All sample containers, including those for field and trip blanks, were laboratory prepared. The field blank was prepared with distilled water which passed through a dedicated bailer to demonstrate decontamination of the sampling equipment. The samples were chilled until their delivery to the laboratory. An additional environmental sample was obtained for chemical characterization from a seep, located on plate 1. All samples were analyzed for the TCL parameters.

Analytical Results

The laboratory analysis of the ground water from the monitor wells indicates that all compounds analyzed were below the New York State ground-water standards with the exception of iron. Iron was present in concentrations of 0.63, 0.97, 0.57 and 0.88 ppm (parts per million) in MW-1, MW-2, MW-4 and MW-5, respectively. The State ground-water standard for this compound is 0.3 ppm. Other compounds detected were aluminum, calcium, potassium, magnesium and sodium. None of these inorganic compounds have State ground-water standards. The State does advise that water with greater than 20 ppm of sodium, as is the case at MW-2 (24 ppm), should not be used for drinking by people on severely restricted sodium diets.

The previously detected aromatic hydrocarbons which included benzene, toluene, ethylbenzene and xylene (BTEX) in MW-2, and phenols in MW-2, MW-3, MW-4 and MW-5, were below the laboratory's detection limit in the latest sampling round.

Analysis of the leachate seep revealed volatile organic concentrations of benzene estimated at 4.4 ppb (parts per billion) and 1,3-dichlorobenzene at 5.2 ppb. The inorganic compounds iron and manganese were detected at 84 and 1.2 ppm, respectively. Other inorganic compounds detected include aluminum, calcium, magnesium and sodium.

Analytical results for LBG's and Bibbo's sampling rounds are summarized on table 3 for organic and table 4 for inorganic compounds detected in the ground water. Analytical results of the leachate seep are also included in the tables. The laboratory reports are presented in Appendix III.

Permeability Testing

Short duration "slug tests" were performed on May 25, 1990 for MW-1, MW-3, MW-4 and MW-5. The results were used to determine the water transmitting capacities of the surficial sediments. A known volume of water was displaced from the well and the rate of water-level recovery to static conditions was determined through the use of a pressure transducer and data logger. The data, analyzed by the Hvorslev method, was used to calculate the hydraulic conductivity of the wells.

Results of the test are shown in table 5. The hydraulic conductivity of MW-4 and MW-5 was used in conjunction with the water-table elevations to determine the rate of ground-water seepage in the landfill vicinity. The average seepage velocity was calculated at 0.03 ft/day (foot per day). Results from MW-1 were not used since the ground-water gradient was not determined in that area. In addition, MW-3 results were not used due to the artesian condition of the well.

__HRS Score__

LBG was informed by Amy Brockshu of the Environmental Protection Agency (EPA) that the HRS scoring system is in the process of final revisions. The HRS score calculated with the soon-to-be outdated score sheets will have no correlation with the new scoring system, and will be of little use once the new scoring system becomes effective. Therefore, LBG will complete the HRS score when the final version is available.

__EM Survey__

An EM survey was completed on May 4, 1990. The survey was conducted to determine if there are avenues of leachate migration which are not being addressed by the in-place monitoring network. A Geonics EM-31 terrain conductivity meter and Watanabe SR 6421 data recorder were used to complete the survey. These instruments require no contact with the earth, and over the area surveyed, provide a continuous record of terrain conductivity in units of mmhos/m (millimhos per meter). The depth of penetration of the EM-31 meter is approximately 20 feet, regardless of the electrical conductivity of the material probed. If the material over which a conductivity measurement is made is homogeneous to a depth of 20 feet, the value read on the EM-31 meter is the terrain conductivity of that volume of material. However, if layers of material with contrasting electrical properties exist beneath a station where terrain conductivity is recorded, the value measured is an apparent conductivity which is an average of the electrical conductivities of all layers to a depth of approximately 20 feet.

Data Interpretation

Several other factors can affect the value of conductivity measured. The electrical conductivity of most earth materials is relatively low while that of pore fluids is generally at least an order of magnitude greater. Therefore, the terrain conductivity of rocks and soils varies largely as a function of moisture content. The following general relationships are useful in interpreting EM survey data. Assuming that other factors remain equal, the greater the concentration of ions in solution in a fluid saturating a rock or sediment, the greater the resulting value of terrain conductivity; the more shallow the depth to water, the greater the value of terrain conductivity; clay and silt exhibit higher terrain conductivity than sand and gravel.

In addition to the causes for some natural variations in terrain conductivity, cultural features including metallic conductors such as fences, overhead power lines, culverts and buried or elevated tanks and drums can also affect the values measured. The magnitude of such an effect is dependent upon the size, depth of burial and horizontal distance to the cultural feature from the terrain conductivity measuring device. The electronics of the EM-31 are such that for values greater than about 70 mmhos/m, the response of the instrument is no longer linearly proportional to conductivity. In fact, at close proximity to metallic conductors the EM-31 meter deflects to a reading below 0 mmhos/m.

Results and Discussion

The survey was conducted along an 1,800-foot long traverse, roughly parallel to the northern and western slopes of the landfill. Marker flags were set up at 100-foot intervals along the traverse in order to gain some ground control. The results obtained during the EM survey indicate that there are four areas of higher than average conductivity. The average or background was found to be approximately 15 mmhos/m. One area in particular near the 300 foot marker along the traverse had a 22 mmhos/m reading. This indicates the possible presence of shallow plumes. Three other areas had values of approximately 18 mmhos/m. These also indicate the possible presence of shallow leachate plumes. Figure 2 shows the locations of all areas with higher than average conductivity readings. Other areas along the traverse with readings of less than 15 mmhos/m are not considered to be indicative of increased ionic concentrations due to leachate. Results of the EM survey are presented in table 6.

Conclusions

1. The ground water in the vicinity of the landfill flows from the north section of the landfill in a northerly direction.

2. Laboratory reports regarding sampling of the monitor wells for TCL parameters found all organic compounds to be below their respective detection limits. Iron was detected above the State standard at MW-1, MW-2, MW-4 and MW-5.

3. Additional environmental sampling of a leachate seep detected organic concentrations of benzene and inorganic concentrations of iron and manganese above the State standards.

4. Hydraulic conductivity of the wells, combined with the observed ground-water gradient and an estimated porosity, indicates that the rate of ground-water movement averages 0.03 ft/day.

5. The EM survey results show four areas of above average conductivity which may be indicative of shallow leachate plumes.

LEGGETTE, BRASHEARS & GRAHAM, INC.

Mary Palumbo
Hydrologic Engineer

Keith Yocis
Hydrogeologist

Reviewed by:

Robert Lamonica, CPG
Vice President

cmp
November 6, 1990
dover/90-37

TABLES

REFERENCE # 72
Page 14 - 125

TABLE 1

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
WINGDALE, NEW YORK

Water-Table Elevations on May 4, 1990

Location	Top of casing elevation (feet above mean sea level)	Depth to water (feet below top of casing)	Water-level elevation (feet above mean sea level)
MW-1	452.1	23.12	428.98
MW-2	452.6	9.70	442.90
MW-3	423.8	0.00	423.80
MW-4	422.3	2.46	419.84
MW-5	424.1	2.46	421.64
PZ-1	420.8	1.66	419.14
PZ-2	420.3	1.03	419.27
PZ-3	420.7	1.46	419.24
PZ-4	421.4	0.90	420.50
PZ-5	424.3	2.86	421.44
PZ-6	423.6	3.10	420.50

dover/90-37

TABLE 2

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
WINGDALE, NEW YORK

Ground-Water Characteristics on May 22, 1990

Sample location	pH	Conductivity (umhos)	Temperature (°C)
MW-1	7.1	42	11.0
MW-2	7.7	420	12.5
MW-3	7.7	270	11.5
MW-4	6.70	285	11.5
MW-5	6.85	315	12.0
Seep	7.2	1,500	13.0

dover/90-37

TABLE 3

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
WINGDALE, NEW YORK

Summary of Organic Compounds Detected in Ground Water[1/]
ug/l

	MW-1		MW-2		MW-3		MW-4		MW-5		Seep	New York State Ground-Water Standard
	12/5/86[2/]	4/22/90[3/]	12/5/86	4/22-25/90	12/5/86	4/22/90	12/5/86	4/22/90	12/5/86	4/22/90	4/22/90	
Benzene	BDL[4/]	BDL	100	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.4[5/]	not detectable
Toluene	BDL	BDL	600	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--[6/]
Ethylbenzene	BDL	BDL	47	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--
Xylenes	BDL	BDL	260	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	--
Phenol	BDL	BDL	30	BDL	11	BDL	16	BDL	11	BDL	BDL	1
1,3-Dichloro-benzene	*[7/]	BDL	*	BDL	*	BDL	*	BDL	*	BDL	5.2	--
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	10	--
Methylene Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.6[5/]	BDL	--

1/ Table lists only samples where chemicals were detected and only the results for those chemicals. Samples in which no chemicals were detected and chemicals that were below the detection limit for all samples are not listed.
2/ Bibbo Associates samples.
3/ LBG samples.
4/ Below detection limit.
5/ Estimated value.
6/ No regulatory standard.
7/ Not analyzed.

REFERENCE # 12
PAGE 16 OF 125

TABLE 4

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
WINGDALE, NEW YORK

Summary of Inorganic Compounds Detected in Ground Water 1/
mg/l

	MW-1		MW-2		MW-3		MW-4		MW-5		Seep	New York State Ground-Water Standards
	12/5/86 2/	4/22/90 3/	12/5/86	4/22-23/90	12/5/86	4/22/90	12/5/86	4/22/90	12/5/86	4/22/90	4/22/90	
Aluminum	BDL 4/	0.79	11.4	0.67	BDL	0.47	BDL	0.68	BDL	1.1	1.8	-- 5/
Calcium	53.1	70	129	53	43	43	39.7	47	47.8	53	170	--
Iron	BDL	0.63	36	0.97	BDL	BDL	BDL	0.57	BDL	0.88	84	0.3
Magnesium	20.8	37	87	28	16.7	18	16.9	21	20.2	26	100	--
Manganese	0.04	BDL	0.63	BDL	0.03	BDL	0.04	BDL	0.02	BDL	1.2	0.3
Potassium	* 6/	0.82	*	12	*	5.6	*	4.0	*	3.3	50	--
Sodium	3.3	1.7	3.2	24 7/	2.5	1.8	3.3	2.8	3.0	1.9	110 7/	--

1/ Table lists only samples where chemicals were detected and only the results for those chemicals. Samples in which no chemicals were detected and chemicals that were below the detection limit for all samples are not listed.
2/ Bibbo Associates samples.
3/ LBG samples.
4/ Below detection limit.
5/ No regulatory standard.
6/ Not analyzed.
7/ Water containing greater than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets.

LEGGETTE, BRASHEARS & GRAHAM, INC.

TABLE 5

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
WINGDALE, NEW YORK

Permeability Test Results

Well	Hydraulic Conductivity (ft/day)
MW-1	0.635
MW-3	6.00
MW-4	0.417
MW-5	0.417

dovar/90-37

TABLE 6

TOWN OF DOVER LANDFILL
PLEASANT RIDGE ROAD
WINGDALE, NEW YORK

Electromagnetic Terrain Conductivity Survey Results

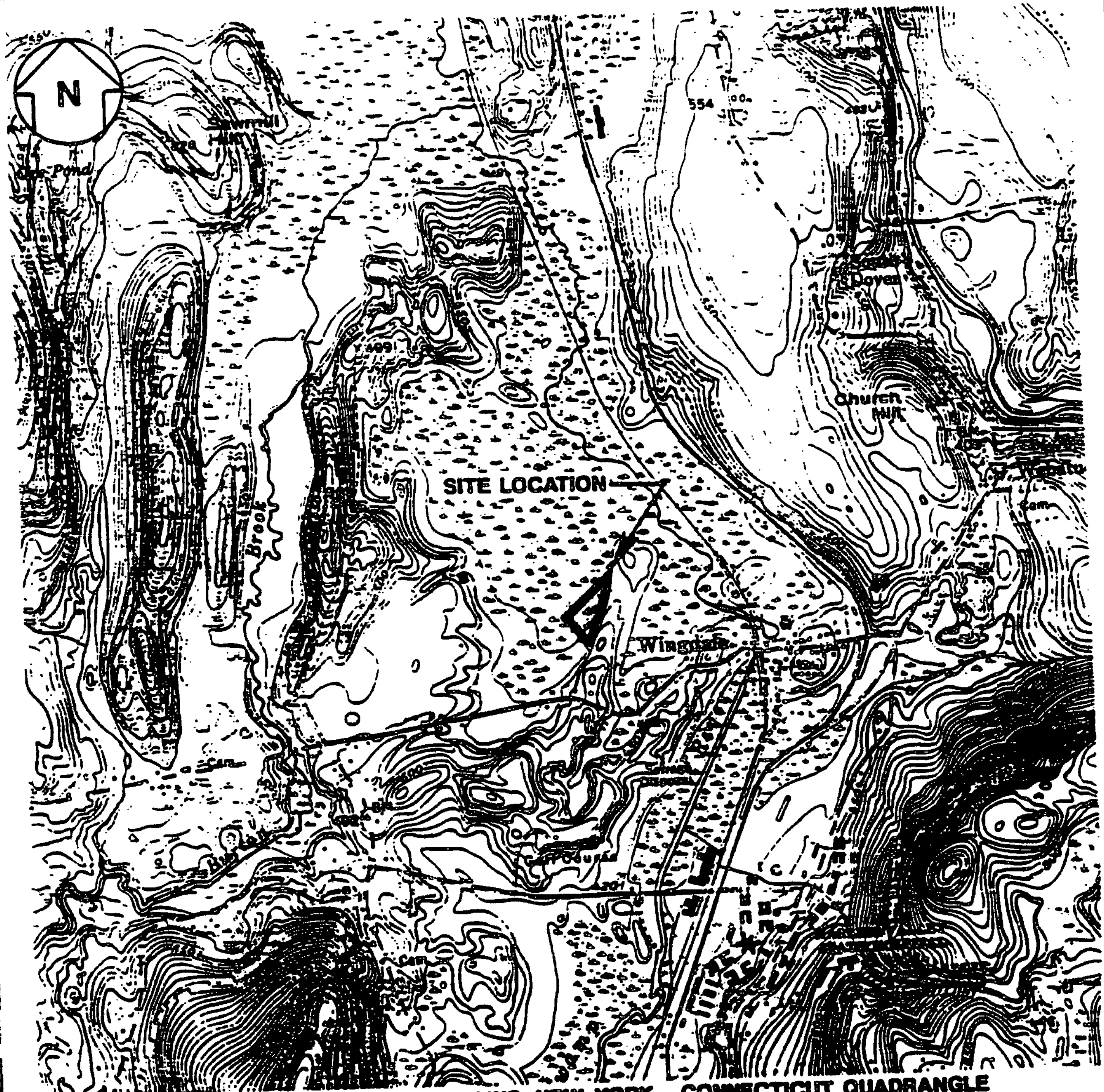
Survey point	Conductivity (mmhos/m)
EM100	9.25
EM200	15.50
EM300	22.00 1/
EM400	16.00
EM500	15.50
EM600	16.00
EM700	17.25 1/
EM800	16.00
EM900	15.00
EM1000	16.25
EM1100	18.50 1/
EM1200	15.75
EM1300	15.50
EM1400	15.00
EM1500	17.50 1/
EM1600	17.00
EM1700	16.00
EM1800	13.50

1/ Maximum conductivity in area of possible shallow leachate plume.

dover/90-37

FIGURES

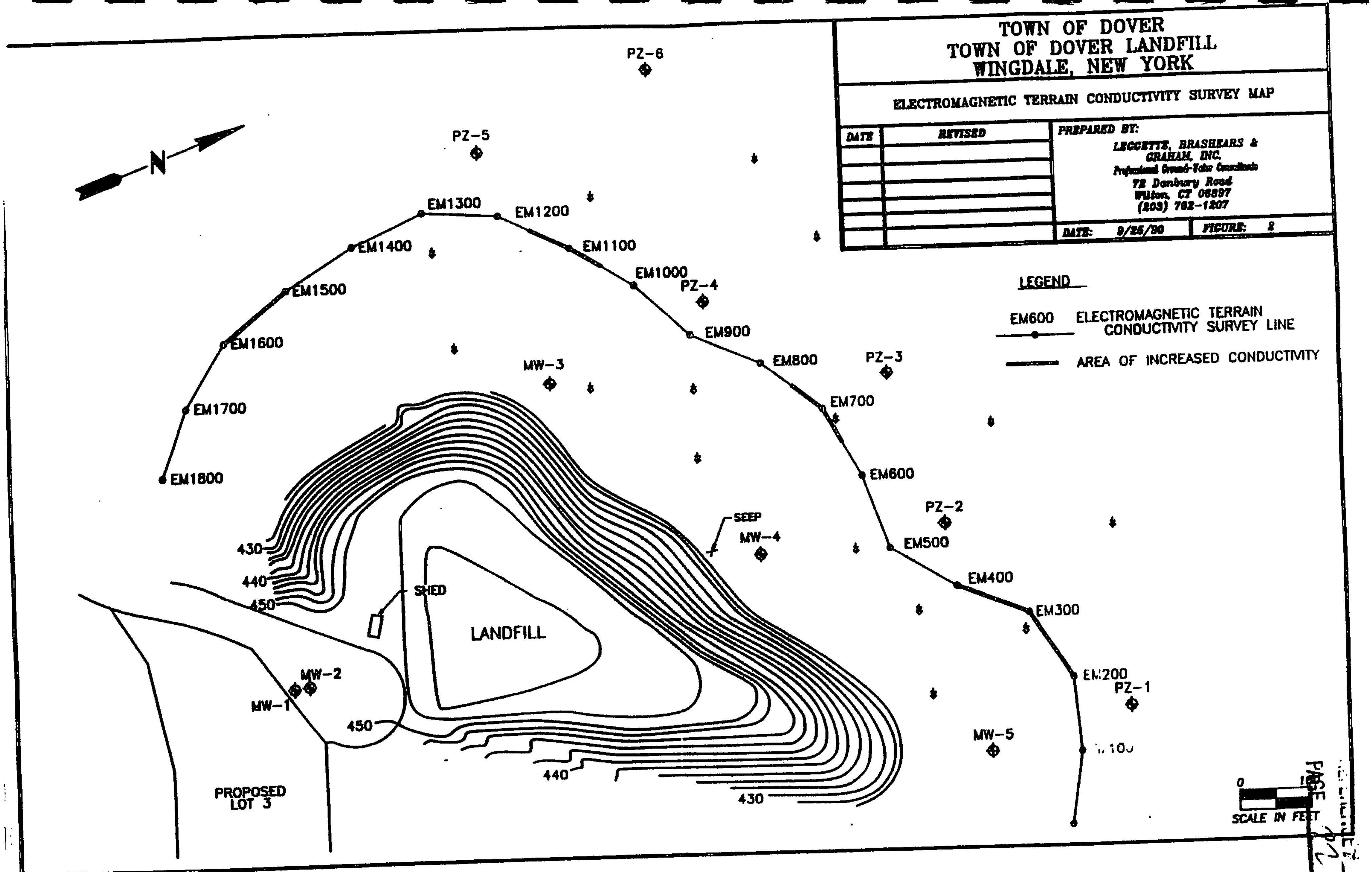
REFERENCE # 12
PAGE 21 OF 125



NOTE: PORTION TAKEN FROM DOVER PLAINS, NEW YORK - CONNECTICUT QUADRANGLE

0 2000
SCALE IN FEET

TOWN OF DOVER TOWN OF DOVER LANDFILL WINGDALE, NEW YORK		
SITE LOCATION MAP		
DATE	REVISED	PREPARED BY: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water Consultants 72 Danbury Road Wilton, CT 06897 203-762-1207
		DATE: 7/25/90
		FIGURE 1


TOWN OF DOVER
TOWN OF DOVER LANDFILL
WINGDALE, NEW YORK
ELECTROMAGNETIC TERRAIN CONDUCTIVITY SURVEY MAP
DATE
REVISED
PREPARED BY:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
72 Danbury Road
Wilton, CT 06897
(203) 762-1207
DATE: 9/25/90
FIGURE: 2
LEGEND
EM600 ELECTROMAGNETIC TERRAIN CONDUCTIVITY SURVEY LINE
AREA OF INCREASED CONDUCTIVITY
N
PZ-6
PZ-5
PZ-4
PZ-3
PZ-2
PZ-1
MW-1
MW-2
MW-3
MW-4
MW-5
EM1300
EM1200
EM1100
EM1400
EM1000
EM1500
EM900
EM1600
EM800
EM700
EM1700
EM600
EM1800
EM500
EM400
EM300
EM200
SEEP
SHED
LANDFILL
430
440
450
PROPOSED LOT 3
0
SCALE IN FEET

APPENDIX I

BIBBO ASSOCIATES
CONSULTING ENGINEERS-PLANNERS
ROUTE 22 & HARDSCRABBLE ROAD
CROTON FALLS, NEW YORK 10519

LEONARD J. BIBBO, P.E.
JOHN P. McNAMARA, P.E.
•
JOSEPH J. BUSCHYNSKI, P.E.

PLANNING
SITE DESIGN
ENVIRONMENTAL
•
(914) 277-5805

ENGINEER'S REPORT
On
Subsurface Conditions
at the
Town of Dover Landfill
Dutchess County, New York

March 9, 1987

Leonard J. Bibbo, P. E.

STATE OF NEW YORK
LEONARD J. BIBBO
No. 25??2

Purpose:

The purpose of this report is to provide the results of an investigation of the subsurface conditions at the Town of Dover Landfill. The investigation is a requirement of the Schedule of Compliance incorporated in the Order on Consent which was issued to the Town of Dover by the N.Y.S. Department of Environmental Conservation in the matter of closing the landfill.

The specific information requested in the Schedule of Compliance is as follows:

a. the geologic setting of the site, including generalized soil profiles;
b. physical and chemical characteristics of the soil;
c. the depth to ground-water and bedrock;
d. groundwater flow patterns and volume;
e. aquifer characteristics;
f. well locations and testing procedures;
g. toxicity and health risks associated with the site.

Background

The Town of Dover Landfill is situated on the north side of Pleasant Ridge Road in the hamlet of Wingdale (See Fig.1). It is reported that the landfill began receiving solid waste from the Wingdale hamlet area in the mid 1940's. Beginning in the early 1970's, the landfill was operated by the Town of Dover receiving residential and a small quantity of commercial waste from within the Town. Industrial waste and sludge were not

FEET

DOVER PLAINS QUAD.

SCALE 1:24000

0

permitted. According to a Phase I investigation report prepared by EA Science and Technology and dated August 1986, there is no documentation of hazardous waste disposal at the landfill.

In June of 1983 the landfill was closed to the public. An interim soil cover has remained over the approximately 5 acres of filled area since the closing.

In 1986, the Town was issued and entered into an Order on Consent with the N.Y.S. Department of Conservation. The primary requirement was to close the landfill under the provisions of Part 360 of NYCRR which governs the operation of solid waste management facilities.

The Town of Dover has retained Bibbo Associates to prepare and implement a closure plan for the landfill and assist in completing the tasks of the Compliance Schedule. A closure plan and schedule for closure was prepared and approved by the N.Y.S.D.E.C. on April 10, 1986.

Sequence of Investigation

The significant work items involved in addressing the subsurface conditions as contained in the Compliance Schedule included:

1. soil evaluation by test pit and mapped data
2. site selection of monitoring wells
3. monitoring well installation
4. well water sample collection and analysis
5. data evaluation

6. report preparation

1.1 Soil Evaluation

The landfill is located on the west side of a ridge line which runs in a north/south direction. The ridge is surrounded by wetland associated with the northerly flowing Swamp River (See Fig.1). The landfill extended into the wetland area from the west side of the ridge.

The Dutchess County Soil Survey Maps categorize the soil on the ridge as the Dover fine sandy loam, ledgy rolling phase. Limestone outcrops are typical. The overlying soil, which was derived from glacial till deposits and material weathered from the underlying limestone, is generally shallow in depth. The wetland soils are classified on the soil survey as Carlisle Muck. The soil is described as a deep, poorly drained soil having an upper layer to 28" of decomposed organic material. Below this layer to 3 or 4 feet occurs decomposed sedge and woody peat. Occurring below the peat layer are sandy loams and silt.

On May 9, 1986, test pits were excavated by a backhoe in the ridge and wetland areas. The results of the test pits along the ridge to the east (high side) of the filled area confirmed the shallow depth to bedrock condition on the easterly side of the ridge. Here bedrock exists 2.5 to 4.5 feet below grade. At a test pit located to the northeast of the landfill, water entered the excavation immediately above the ledge rock and appeared to be traveling along the rock surface.

The soil found at the base of the landfill and in the wetland consisted uniformly of 12 inches of black organic soil, 5 inches of dark gray clay and medium gray sand below. (Subsequent well drilling revealed depths of organic soil, up to 18".) To a depth of four feet below the surface, the sand contained no free water but was damp to the touch. Free water was consistently encountered between the bottom of the organic soil and the top of the clay layer. The clay was found to be highly plastic. There was no penetration of the surface waters below the surface of the clay layer. Eight tests were made, adjacent to the landfill and outwards to approximately 50 feet distant in the swamp.

2.1 Monitoring Well Site Selection

The Schedule of Compliance required the installation of groundwater monitoring wells around the periphery of the landfill. One well located upgradient and three wells located downgradient of the landfill were specified. On June 6, 1986, a meeting was held at the site with Lawrence Gallagher of the N.Y.S.D.E.C. to determine the specific location of the proposed wells. Based on the terrain, test pit and soil map information, and assumed direction of groundwater flow, the locations were flagged as shown on Fig. 1 in Appendix A. Specifications and Contract Documents were prepared by Bibbo Associates for the monitoring well installation. The project was awarded to Boyd Artesian Well Co. by the Dover Town Board on September 23, 1986.

3.1 Monitoring Well Installation

The wells were installed under the supervision of Bibbo Associates between October 8, and December 4, 1986. A rotary drilling rig mobilized by equipment capable of negotiating soft terrain was used for the downgradient wells located in the wetland. The boring was drilled by a rotary drill bit operating inside a 4 inch flush joint casing that was advanced in the process by a drop hammer. The subsurface soils were collected by a split spoon sampler approximately 2 out of each 5 feet. The samples were placed in containers, logged for depth and visual soil description, and are stored at the office of Bibbo Associates. When the drill reached bedrock, it penetrated the rock to the extent possible. A 6 inch penetration was reached in well #4 and #5. A 3 foot rock core was recovered in well #3. Throughout the drilling the boring hole was flushed with water. Following completion of the boring, a 2 inch flush joint PVC pipe with well screen was installed. Sand was then placed between the screen and boring walls as the sleeve was gradually removed. The uppermost portion of the well was sealed with bentonite slurry to ground surface. Each well was developed for at least 1/2 hour with compressed air. A typical downgradient well detail is shown in Appendix B.

The upgradient monitoring wells were drilled with an air rotary rig into bedrock. In well #1, a 6 inch casing was extended 5 feet into rock and a 6 inch drill hole extended to 45 feet below grade where sufficient water was encountered. A 4 inch flush joint PVC pipe and well screen were installed, followed by sand and bentonite seals as previously described and as shown by the typical detail contained in Appendix B.

Well #2 constitutes a sump extending 5 feet into rock. It is similar in construction to well #1 but without steel casing into rock (See Appendix B). The well logs for the five wells are contained in Appendix C.

3.2 Water Level Measurements

Groundwater levels in the wells were measured following completion of the wells and prior to collection of water samples. The below grade water levels in the wells are as follows:

Well #1: 19.0'
#2: 7.5'
#3: overflowing
#4: surface
#5: surface

4.1 Groundwater Sample Collection

Samples were collected from the wells on December 5 and 6, 1986, by Camo Laboratories, Poughkeepsie, New York. The sample collection, storage, shipment and analysis were in accordance with the methods specified by the American Public Health Association and Environmental Protection Agency. Prior to the sample collection, each well was evacuated of its water volume at least 3 times.

4.2 Analytical Report

The required baseline water quality scan was set forth in the Schedule of Compliance and is contained in Appendix C under the heading "Attachment 1". Camo Laboratories analyzed the samples for all required parameters and the lab report is contained in Appendix D.

5.1 Geologic Setting (1)

The Dover Landfill is situated in an area dominated by glacial-till covered uplands and a more or less continuous northerly-trending lowland extending throughout most of eastern Dutchess County. This lowland system, locally referred to as the Harlem Valley, is characterized by extensive wetland areas interrupted by numerous low hills rising 50 to 200 feet in relief. The western edge of the landfill is surrounded by an extensive area of wetlands which locally joins the course of the Swamp River to north of the site.

The bedrock underlying the landfill is the Stockbridge Marble, a thick sequence of Cambrian and Ordovician limestones and dolomites. Throughout most of southeastern Dutchess County, these carbonate rocks have been tightly folded and metamorphosed to marble. Surficial deposits mapped in the area of the landfill vary from glacial till, covering most uplands, to stratified sands and gravels with silt, clay and gravels with silt, clay and organic material along much of the Swamp River Valley.

The nature of the surficial deposits beneath and directly

(1) ... by Leggette, Brashears & Graham, Inc.,

adjacent to the landfill comes primarily from the logs of monitor wells drilled around the landfill perimeter. These logs show sediments ranging from fine to medium sands, interbedded with fine gravels, to mostly silts and clays. Depth to bedrock beneath the landfill ranges from about 12 feet to about 48 feet. Data from several water supply wells to the north of the site suggests the presence of a sand and gravel aquifer lying beneath the valley wetlands. The depth and extent of this possible aquifer are not known.

5.2 Ground Water Flow Patterns and Volume (1)

A review of the depth to bedrock data and static water levels from the 5 onsite monitoring wells suggest a rather flat hydraulic gradient (slightly more than about 0.01 ft/ft) beneath and adjacent to the site. This low gradient coupled with the relatively low permeability estimated for the soils at the site suggests a rather sluggish rate of ground-water movement. Estimates of the rate and volume of water flow beneath the site cannot be made without additional data on static water levels and sediment properties. Directions of water flow beneath and adjacent to the site are generally to the northwest and north.

5.3 Aquifer Characteristics (1)

In the immediate vicinity of the landfill, the overburden

(1) Prepared by Leggette, Brashears & Graham, Inc., Consulting Ground-Water Geologists

aquifer is too thin to be a useful aquifer but it may be thicker and more permeable to the north. The landfill site is a small fraction of the water shed of the Swamp River aquifer.

The bedrock of Stockbridge Marble is a potential aquifer for small to moderate water supplies derived from fractured or solutionalized zones in this carbonate rock. In the local environment, wells completed in the Stockbridge would receive much of their recharge from the swamp areas.

5.4 General Site Profile

Two cross sections through the landfill are shown on Fig. 2 and 3 of Appendix A. The cross section locations are shown on the Site Plan, (Fig. 1). These sections show the relationship of the surface grade to ground water and bedrock elevations encountered during test pits and well drilling.

5.5 Ground-water Quality

The laboratory analysis indicates the presence of good quality water in upgradient well #1. This would hold for downgradient wells #3, 4, and 5 except for the presence of phenols in concentration of 11, 16, and 11 PPB, respectively. The maximum level specified by Part 703 for phenols in groundwater is 1 PPB. The laboratory director at Camo Laboratories has suggested that the extremely high turbidity in the samples may have been a factor in these phenol concentrations by way of interference. Arrangements have been made to re-analyze the downgradient wells for phenol concentrations. The original samples were taken soon after the installation of the wells. It is expected the turbidity levels will have significantly decreased by the time of the re-sampling.

Upgradient Well #2 is a sump drilled 5 feet into bedrock collecting surface water which has leached through the shallow, 3-1/2± feet of overburden. The analysis detected high concentrations of Fe and Mn and a high COD level. Certain volatile compounds characteristic of gasoline were detected in significant concentrations. These included xylenes, benzene, toluene, and ethylbenzene. The next step in determining the extent of the chemical contamination will be the re-sampling and analysis of the well water for these parameters. Camo Laboratories has scheduled this retesting. Our present assumption is that the contamination is confined to a localized area in the vicinity of the well since it is upgradient of the landfill. Furthermore, the deep upgradient well, located within 20 feet of the shallow well, did not show any evidence of these parameters. If contamination of the sump water is confirmed by re-testing, efforts will be made to determine its extent.

5.6 Summary

The landfill has been in existence for many years and on the basis of the results of the well water analysis, it is not adversely affecting the quality of the ground water.

It is our opinion that there are 3 possible contributing factors:

a. Contaminating leachate generated by the landfill is minimal.

b. The leachate does not penetrate or is significantly attenuated by the organic and underlying clay layer in the wetland.

c. The existing cover material is effective in minimizing infiltration into the landfill.

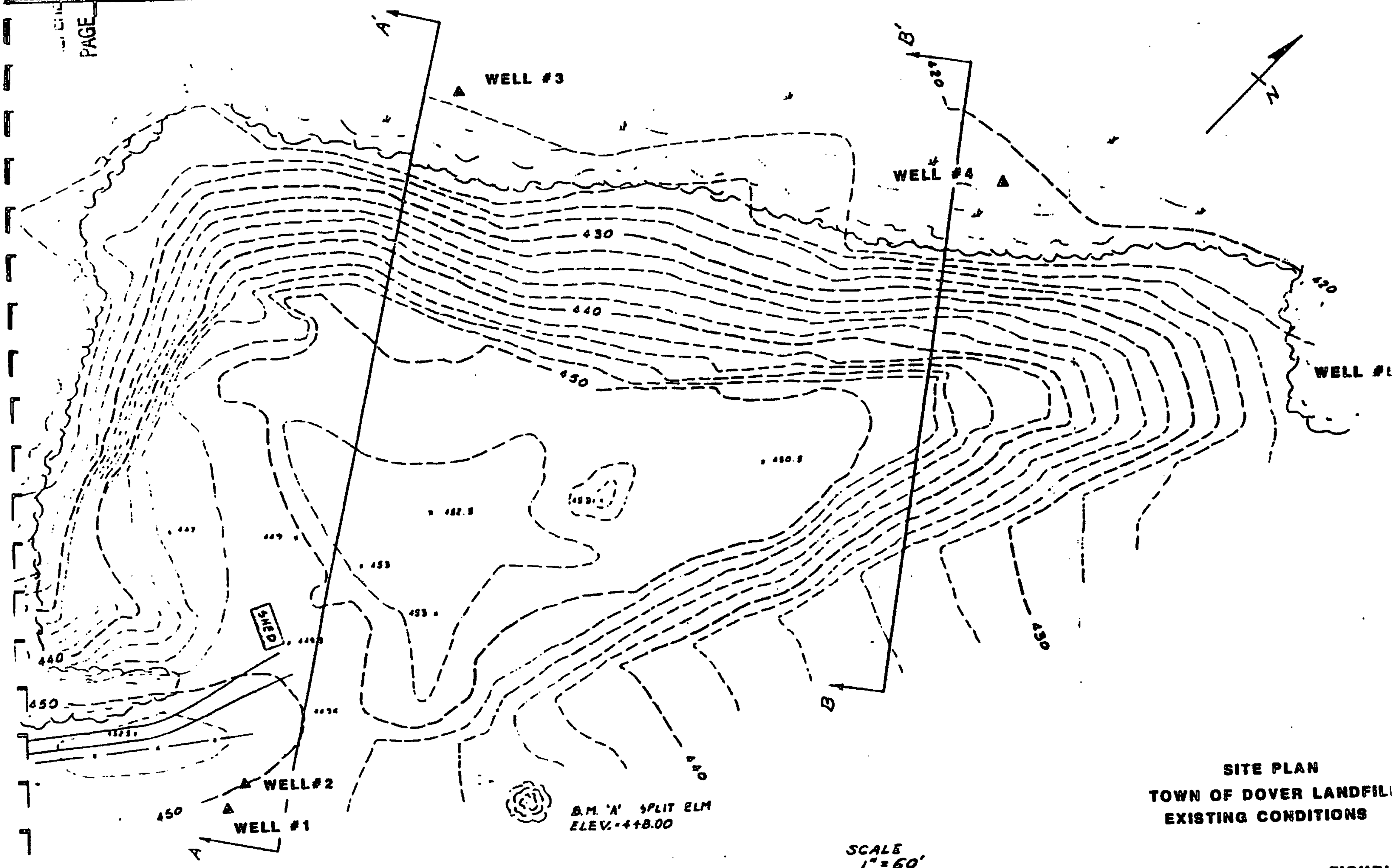
Leachate leaving the landfill is minimal. Only very small amounts had been observed on the surface of the wetland along the western toe during the initial investigation. During the test pit excavations, no evidence was found that the leachate penetrated the surface of the organic soil layer in this area. (See letter from Bibbo Associates dated June 9, 1986, in Appendix E). Leachate occurs intermittently since there was no evidence of leachate during the well installation of this past fall.

The primary objective of the closure plan is placement of a near impervious final cover on the landfill surface. It is reasonable to assume that this cover will prevent any further leachate from leaving the landfill.

Collection of leachate on the wetland side of the landfill is not practical due to high ground water conditions above the clay layer. Furthermore, a trench would penetrate the muck and clay layers which appear to be a dominant factor in separating the ground water from any leachate contamination.

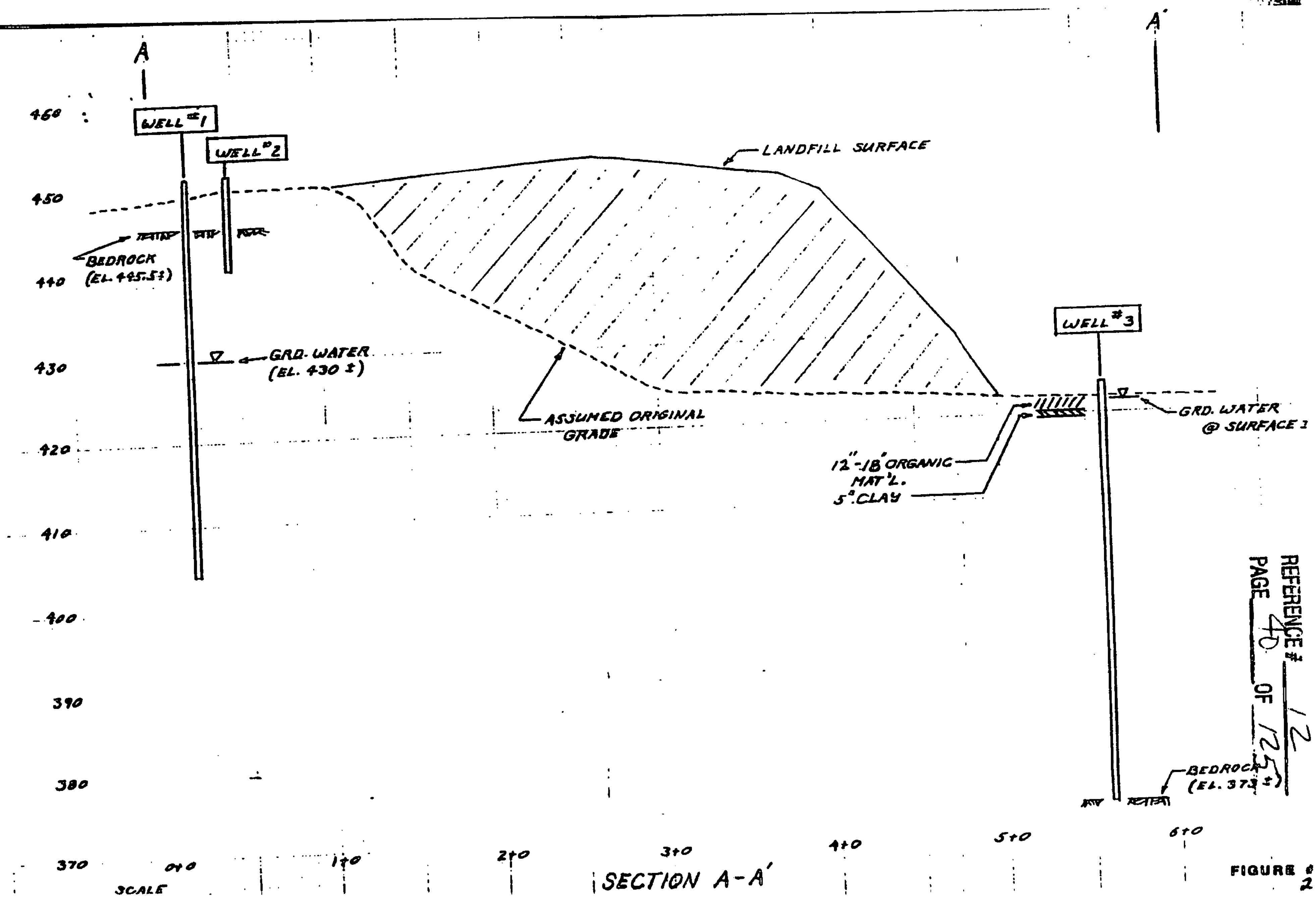
To further isolate the landfill from infiltration, all surface and subsurface water upgradient of the landfill will be diverted from the fill area. In this instance, the amount of terrain sloping in the direction of the fill is minimal because the fill extends closely to the top of the original north-south ridge line. The land which remains pitched to the fill will be cut off by means of a curtain drain as shown on Figure 4 of Appendix A. This drain will be incorporated in the contract to be prepared for the final cover placement.

APPENDIX A



SITE PLAN
TOWN OF DOVER LANDFILL
EXISTING CONDITIONS

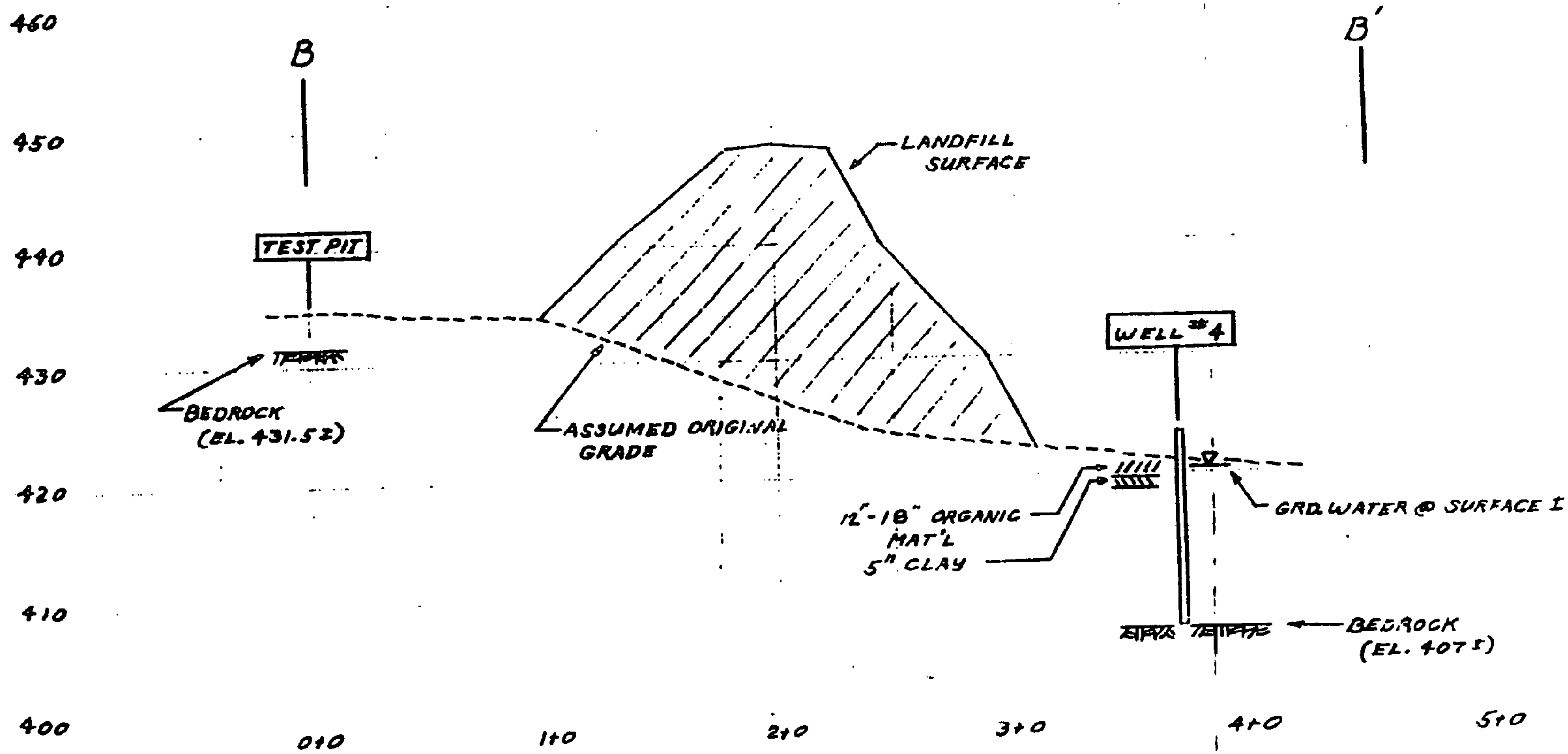
FIGURE



SECTION A-A'

REFERENCE # 12
PAGE 40 OF 125

FIGURE 2

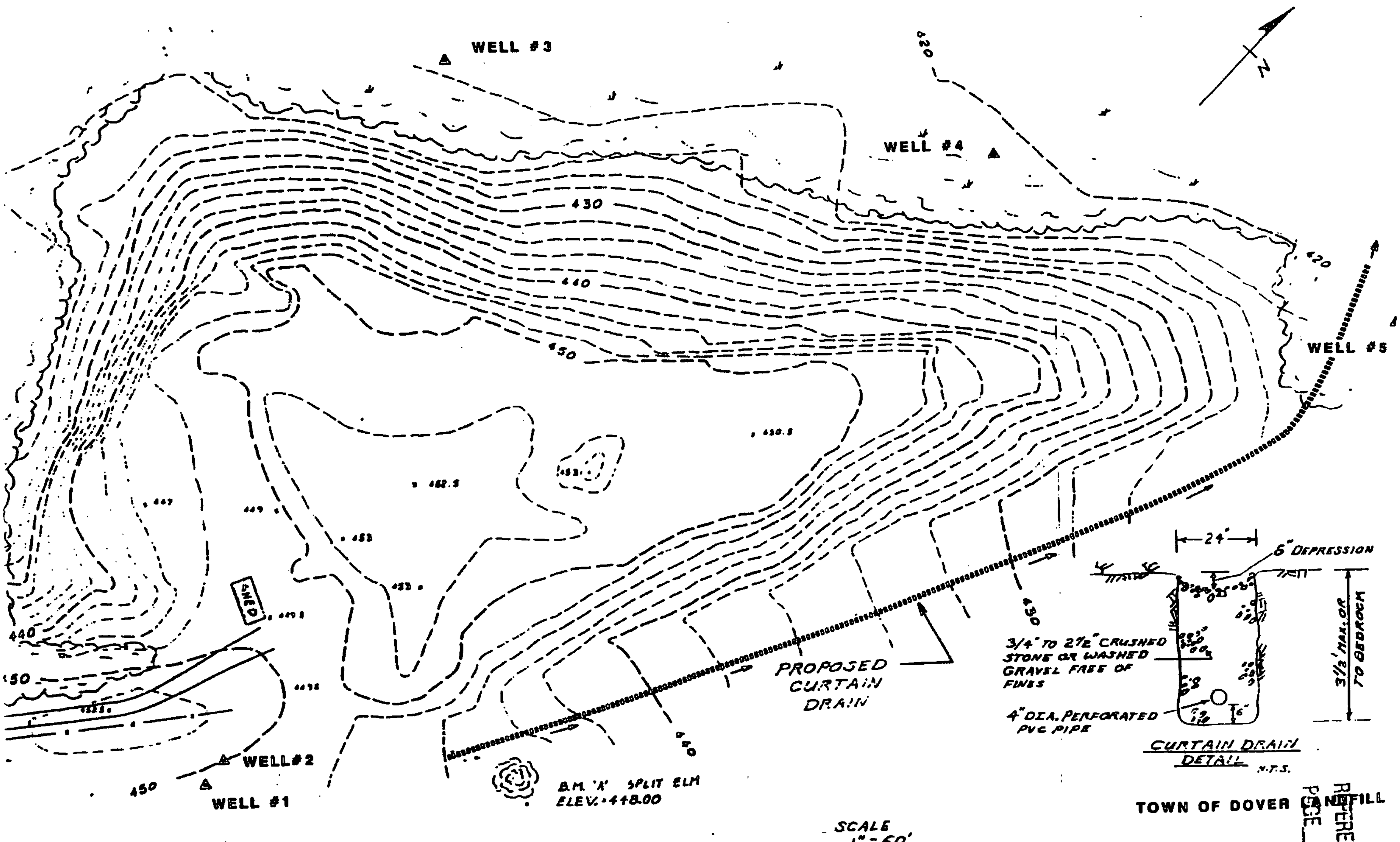


SECTION B-B'

SCALE
H: 1" = 50'
V: 1" = 10'

FIGURE #3

REFERENCE # 12
PAGE 41 OF 125



TOWN OF DOVER LANDFILL

FIGURE #4

REFERENCE # 12
PAGE 42 OF 125

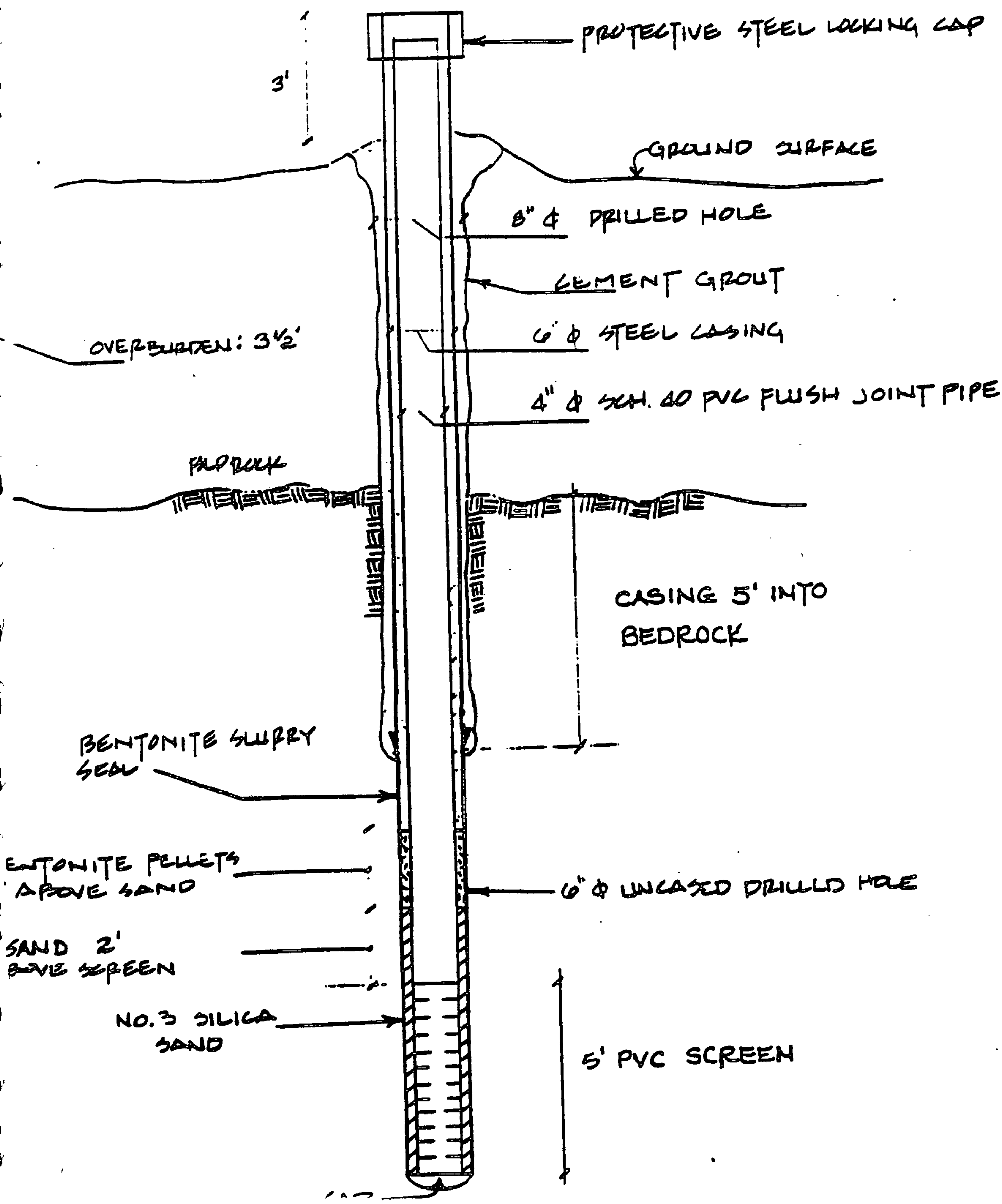
REFERENCE # 12
43 125

APPENDIX B

WELL NO. 1

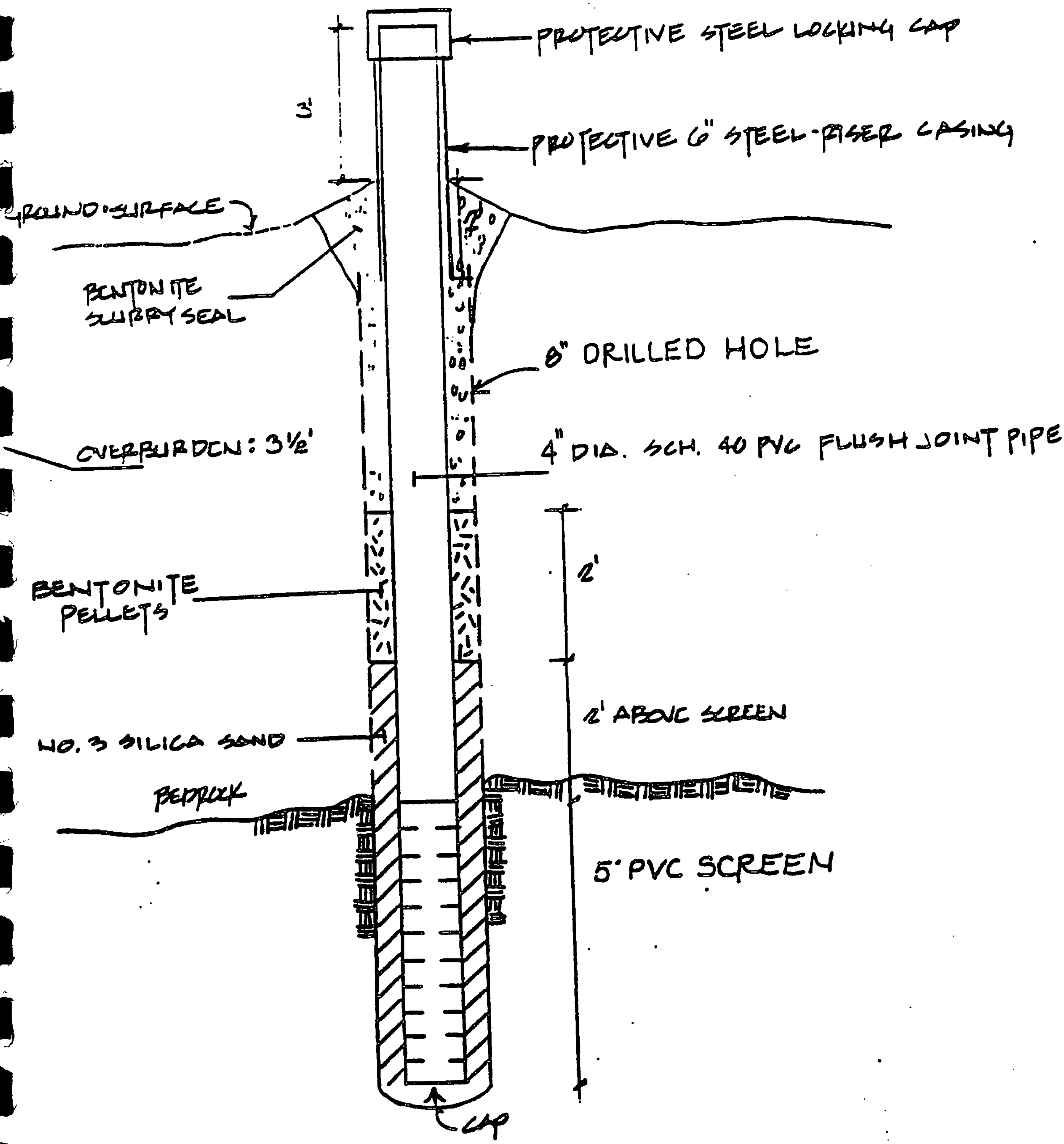
DEEP UPGRADIENT MONITORING WELL

NTS



WELL NO. 2
SHALLOW UPGRADIENT MONITORING WELL

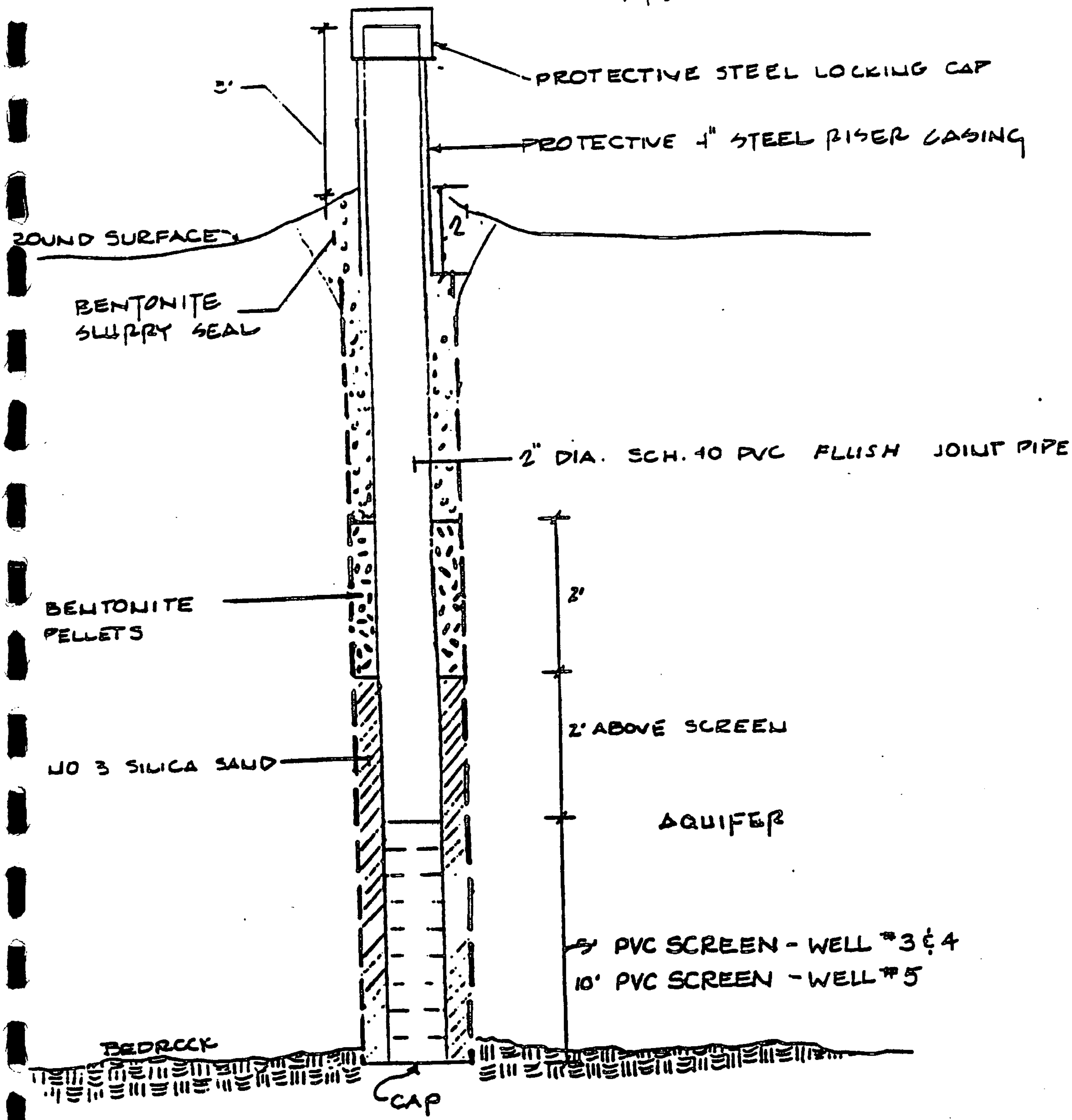
NTS



ICAL DOWNGRADIENT MONITORING WELL

STRUCTION DETAIL - WELL NOS. 3, 4, 5

NTS



APPENDIX C

Lloyd Artesian Well, Co., Inc.
R.D. No. 5 Rte. 52
Carmel, N.Y. 10512
(914) 225-3196

WELL LOG

WELL NO. #1 Deep Rock Well

SHEET NO. ______ OF ______

DATE STARTED ______

DATE FINISHED ______

DRILLER ______

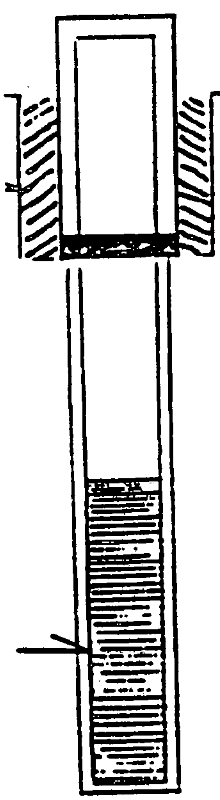
EQUIPMENT ______

PROJECT Dover Land Fill Monitoring Wells

CLIENT Town of Dover

ENGINEER Bibbo Associates

LOCATION Wingdale, N.Y.

EQUIPMENT INSTALLED	DEPTH IN FT.	FORMATION & SAMPLES	REMARKS
		0-3' Soils @3' White Marble	
	10'		
	20'		
		White Marble Fracture zone @ 26-30'	
	30'		
	40'	White Marble, Water Bearing Seam @ 42'	
	45'		

Boyd Artesian Well, Co., Inc.
R.D. No. 5 Rte. 52
Carmel, N.Y. 10512
(914) 225-3196

WELL LOG

WELL NO. 2 Shallow Rock
SHEET NO. 1 OF

PROJECT Dover Land Fill Monitoring Wells
CLIENT Town of Dover
ENGINEER Bitkin Associates
LOCATION Wingdale N.Y.

DATE STARTED
DATE FINISHED
DRILLER C.R.
EQUIPMENT

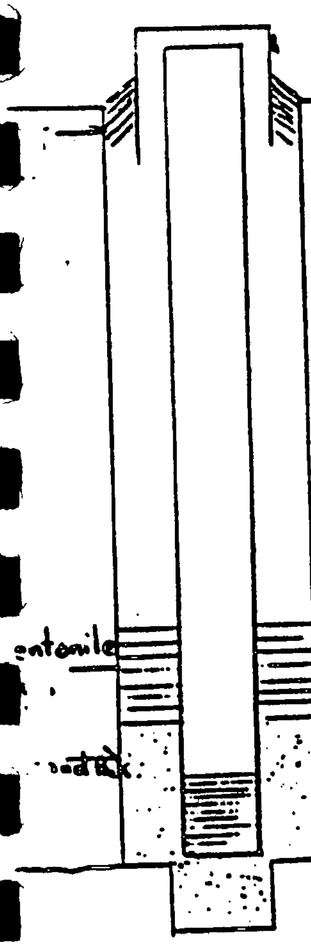
EQUIPMENT INSTALLED	DEPTH IN FT.	FORMATION & SAMPLES	REMARKS
	8'	White Marble @ 3'	

Boyd Artesian Well, Co., Inc.
R.D. No. 5 Rte. 52
Carmel, N.Y. 10512
(914) 225-3196

WELL LOG

WELL NO. 3
SHEET NO. 1 OF
DATE STARTED 10/14/86
DATE FINISHED 10/20/86
DRILLER TM
EQUIPMENT

PROJECT Dover LandFill Monitoring Wells
CLIENT Town of Dover
ENGINEER Bibbo Associates
LOCATION Wingdale, N.Y.

EQUIPMENT INSTALLED	DEPTH IN FT.	FORMATION & SAMPLES	REMARKS
	10, 20, 30, 40, 50	0-4' Black organic swamp soils 4-10' Grey tight silts 10-20' Grey tight silts w/little Fine sand 20-30' Grey silts + Fine sand w/Thin Layer of coarse sand 30-40' White + Black Med - Coarse sand, Well sorted 40-48'6" Coarse sand (40-45), 45-48 Fine sand @ 48'6" White Marble Core 3' into rock	

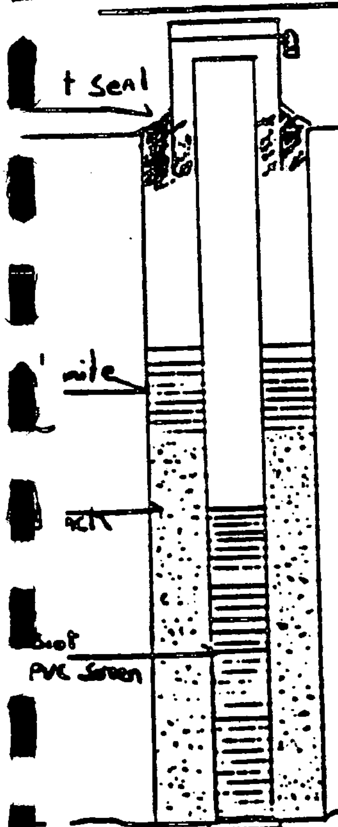
REFERENCE # 12
PAGE 51 OF 125

Boyd Artesian Well, Co., Inc.
R.D. No. 5 Rte. 52
Carmel, N.Y. 10512
(914) 225-3196

WELL LOG

PROJECT Dover LandFill Monitoring Wells
CLIENT Town of Dover
ENGINEER Bibbo Associates
LOCATION Wingdale, N.Y.

WELL NO. 5
SHEET NO. 1 OF
DATE STARTED 10/8/86
DATE FINISHED 10/13/86
DRILLER T.M.
EQUIPMENT

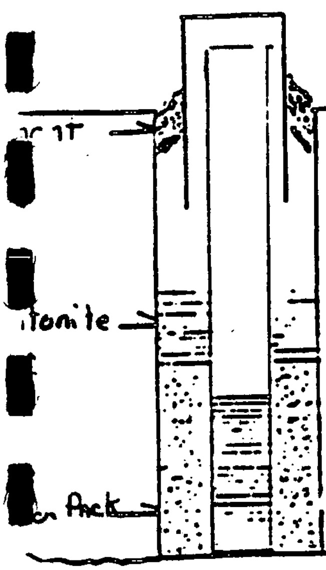
EQUIPMENT INSTALLED	DEPTH IN FT.	FORMATION & SAMPLES	REMARKS
	0	0-2' Black swampy soils & Peat	
	5	Grey, tight silts with Few Thin Clay rich zone	
	10	Grey, tight silts w/some Fine sands	
	15	Grey, compact silts w/some Fine Sand	
	20	20-22' Pebbles & Broken Rock @ 23' White Marble	
	25		

Boyd Artesian Well, Co., Inc.
R.D. No. 5 Rte. 52
Carmel, N.Y. 10512
(914) 225-3196

WELL LOG

WELL NO. 4
SHEET NO. 1 OF 1
DATE STARTED 10/13/86
DATE FINISHED 10/14/86
DRILLER TM.
EQUIPMENT

PROJECT Dover LandFill Monitoring Wells
CLIENT Town of Dover
ENGINEER Bibbo Associates
LOCATION Wingdale, NY

EQUIPMENT INSTALLED	DEPTH IN FT.	FORMATION & SAMPLES	REMARKS
		0-2' Black organic soils, Peat	
	5	2-10' Grey silts + Fine sands	
	10	10-14' Grey silts w/med sands	
		@ 14' White Marble	
	15		

APPENDIX D

ATTACHMENT 1

New York State Department of Environmental Conservation
Bureau of Municipal Waste
Baseline Water Quality Analytical Protocol

A baseline water quality scan for groundwater, surface water and/or leachate should include:

1. A complete Priority Pollutants Scan* including Metals, Cyanide, Total Phenols, Volatile Compounds, Acid Compounds, Base/Neutral Compounds and Pesticides
2. Boron
3. Total kjeldahl nitrogen (TKN)
4. Ammonia
5. Nitrate
6. BOD_5
7. COD
8. TOC
9. TDS
10. Sulfate
11. Aluminum
12. Chromium (Hexavalent)
13. Sodium
14. Detergent
15. Calcium
16. Alkalinity
17. Color
18. Odor
19. Hardness (total)
20. Chloride
21. Iron
22. Manganese
23. Dissolved Oxygen (stream samples)
24. Specific Conductivity (field measured)
25. Total Volatile Solids (leachate sample only)
26. Static Water Level in Wells (field measured)
27. pH (field measured)
28. Eh
29. Turbidity

*Listed in the Federal Register Volume 45, No. 98, Monday, May 19, 1980 pages 33573-33579, inclusive.

*All samples for metals analysis <u>should</u> be filtered, <u>no other samples should be filtered</u>.

CAMO LABORATORIES
367 VIOLET AVENUE
POUGHKEEPSIE, NEW YORK 12601
(914) 473-9200
FED. I.D. #14-1514539

Gibbs Associates
Route 22
Hardscrabble Road
Croton Falls, New York 10519

Date of Invoice: 01-06-87
P.O. #:
Job #:
Invoice #: 86-12-2564

Facility: Town of Dover Landfill

Analytical Report

Date Samples Collected: 12-05-86
Date Samples Received: 12-05-86
Samples Collected By: CAMO Lab
Samples Delivered By: CAMO Lab
Matrix: Water

Sample Identification

A. Well #1
B. Well #3
C. Well #4
D. Well 5
E. Well #2

Parameters	Unit/ Measure	A	B	C	D	E
See Attached		*	*	*	*	*

Analysis Comments: * See Attached Tables and Invoice.

Analytical Methods: All analytical methods comply with those specified in APHA "Standard Methods" and/or EPA approved methods.

APPENDIX II

CAMO LOG NO.: 86-12-2564

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
Alkalinity(as CaCO(3))	238	178	175	214	175
Color (Pt/Co)	5	20	5	5	10
Odor (TON)	1	1	1	1	1
Hardness (as CaCO(3))	218	176	169	203	680
Magnesium	20.8	16.7	16.9	20.2	87
Chloride	1	8	3	2	6
Iron	<0.05	<0.05	<0.05	<0.05	36
Manganese	0.04	0.03	0.04	0.02	0.63
Dissolved Oxygen	9.1	6.8	7.1	8.0	8.8
Specific Conductivity (umhos/cm)	419	367	381	412	491
TVS	116	82	166	168	175
pH (Std.)	7.1	7.5	7.7	7.8	7.4
Turbidity (NTU)	0.45	25	>1000	>1000	>1000

NOTE: All results expressed in mg/L unless noted otherwise.

IO LOG NO.: 86-12-2564

SAMPLE IDENTIFICATIONS

AMETERS	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
on	<0.1	<0.1	0.2	0.1	0.1
KN	0.07	<0.02	0.42	0.28	0.52
monia	0.05	<0.03	<0.03	<0.03	<0.03
itrate	<0.02	<0.02	<0.02	<0.02	<0.02
)(S)	2	<1	30	20	24
on	5	<5	12	8	345
TOC	1.7	0.50	26	8	5.2
S	580	218	238	240	260
Sulfate	22	23	40	43	53
uminum	<0.2	<0.2	<0.2	<0.2	11.4
Hexavalent Chromium	<0.05	<0.05	<0.05	<0.05	<0.05
Sodium	3.3	2.5	3.3	3.0	3.2
Detergent	<0.1	<0.1	<0.1	<0.1	<0.1
Calcium	53.1	43.0	39.7	47.8	129

NOTE: All results expressed in mg/L unless noted otherwise.

CAMO LOG NO.: 86-12-2584

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

ARAMETERS	SAMPLE IDENTIFICATIONS
	Well #4 Dupe
,2 Dichlorobenzene	<10
1,3 Dichlorobenzene	<10
,4 Dichlorobenzene	<10
Hexachloroethane	<10
Hexachlorobutadiene	<10
lexachlorobenzene	<10
1,2,4 Trichlorobenzene	<10
lis(2-Chloroethoxy) Methane	<10
Naphthalene	<10
2 Chloronaphthalene	<10
Isophorone	<10
Nitrobenzene	<10
2,4 Dinitrotoluene	<10
2,6 Dinitrotoluene	<10
4 Bromophenyl Phenyl Ether	<10
Bis(2-Ethylhexyl) Phthalate	<10
Di-n-octyl Phthalate	<10

NOTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 86-12-2564

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
imethyl phthalate	<10	<10	<10	<10	<10
Diethyl phthalate	<10	<10	<10	<10	<10
i-n-butyl phthalate	<10	<10	28	<10	<10
Fluorene	<10	<10	<10	<10	<10
.luoranthene	<10	<10	<10	<10	<10
hrysene	<10	<10	<10	<10	<10
Pyrene	<10	<10	<10	<10	<10
henanthrene	<10	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10	<10
enzo(a)anthracene	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	<10	<10	<10	<10	<10
enzo(a)pyrene	<10	<10	<10	<10	<10
Indeno(1,2,3-c,d)pyrene	<10	<10	<10	<10	<10
ibenzo(a,h)anthracene	<10	<10	<10	<10	<10
Benzo(g,h,i)perylene	<10	<10	<10	<10	<10

OTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 86-12-2564

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
1,2 Dichlorobenzene	<10	<10	<10	<10	<10
1,3 Dichlorobenzene	<10	<10	<10	<10	<10
1,4 Dichlorobenzene	<10	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10	<10
Hexachlorobutadiene	<10	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10	<10
1,2,4 Trichlorobenzene	<10	<10	<10	<10	<10
Bis(2-Chloroethoxy) Methane	<10	<10	<10	<10	<10
Naphthalene	<10	<10	<10	<10	<10
2 Chloronaphthalene	<10	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10	<10
2,4 Dinitrotoluene	<10	<10	<10	<10	<10
2,6 Dinitrotoluene	<10	<10	<10	<10	<10
4 Bromophenyl Phenyl Ether	<10	<10	<10	<10	<10
Bis(2-Ethylhexyl) Phthalate	<10	<10	<10	<10	<10
Di-n-octyl Phthalate	<10	<10	<10	<10	<10

NOTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 86-12-2564

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

ARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
Chlorophenyl Phenyl Ether	<10	<10	<10	<10	<10
3,3' Dichlorobenzidine	<20	<20	<20	<20	<20
enzidine	<80	<80	<80	<80	<80
bis(2-Chloroethyl)ether	<10	<10	<10	<10	<10
.,2-Diphenylhydrazine	<10	<10	<10	<10	<10
exachlorocyclopentadiene	<10	<10	<10	<10	<10
N-Nitrosodiphenylamine	<10	<10	<10	<10	<10
cenaphthylene	<10	<10	<10	<10	<10
Acenaphthene	<10	<10	<10	<10	<10
utyl benzyl phthalate	<10	<10	<10	<10	<10
-Nitrosodimethylamine	<10	<10	<10	<10	<10
Nitrosodi-n-propylamine	<10	<10	<10	<10	<10
is(2-Chloroisopropyl)ether	<10	<10	<10	<10	<10

NOTE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 96-12-2564

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

PARAMETERS	SAMPLE IDENTIFICATIONS Well #4 Dupe
Dimethyl phthalate	<10
Diethyl phthalate	<10
Di-n-butyl phthalate	37
Fluorene	<10
Fluoranthene	<10
Chrysene	<10
Pyrene	<10
Phenanthrene	<10
Anthracene	<10
Benzo(a)anthracene	<10
Benzo(b)fluoranthene	<10
Benzo(k)fluoranthene	<10
Benzo(a)pyrene	<10
Indeno(1,2,3-c,d)pyrene	<10
Dibenzo(a,h)anthracene	<10
Benzo(g,h,i)perylene	<10

NOTE: All results expressed in ug/l unless noted otherwise.

[illegible]AMO LOG NO.: 86-1[illegible]-2564

BASE/NEUTRAL EXTRACTABLE ORGANIC COMPOUNDS

[illegible]RAMETERS	SAMPLE IDENTIFICATIONS
	Well #4 Dupe
[illegible]Chlorophenyl Phenyl Ether	<10
[illegible],3' Dichlorobenzidine	<20
[illegible]zidine	<80
[illegible]s(2-Chloroethyl)ether	<10
[illegible]-Diphenylhydrazine	<10
[illegible]achlorocyclopentadiene	<10
[illegible]Nitrosodiphenylamine	<10
[illegible]naphthylene	<10
[illegible]enaphthene	<10
[illegible]l benzyl phthalate	<10
[illegible]-Nitrosodimethylamine	<10
[illegible]rosodi-n-propylamine	<10
[illegible]2-Chloroisopropyl)ether	<10

[illegible]TE: All results expressed in ug/l unless noted otherwise.

CAMO LOG NO.: 86-12-2564

PCB'S

ARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
roclor 1016	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1221	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1232	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1242	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1248	<0.5	<0.5	<0.5	<0.5	<0.5
Aroclor 1254	<0.5	<0.5	<0.5	<0.5	<0.5
eclor 1260	<0.5	<0.5	<0.5	<0.5	<0.5

OTE: All results expressed in ug/L unless noted otherwise.

CAMO LOG NO.: 86-12-2564

PESTICIDES

PARAMETERS	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
I - Endosulfan	<0.1	<0.1	<0.1	<0.1	<0.1
II - Endosulfan	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan Sulfate	<0.1	<0.1	<0.1	<0.1	<0.1
α - BHC	<0.1	<0.1	<0.1	<0.1	<0.1
β - BHC	<0.1	<0.1	<0.1	<0.1	<0.1
δ - BHC	<0.1	<0.1	<0.1	<0.1	<0.1
γ - BHC	<0.1	<0.1	<0.1	<0.1	<0.1
..ldrin	<0.1	<0.1	<0.1	<0.1	<0.1
ieldrin	<0.1	<0.1	<0.1	<0.1	<0.1
4,4'-DDE	<0.1	<0.1	<0.1	<0.1	<0.1
,4'-DDD	<0.1	<0.1	<0.1	<0.1	<0.1
4,4'-DDT	<0.1	<0.1	<0.1	<0.1	<0.1
ndrin	<0.1	<0.1	<0.1	<0.1	<0.1
ndrin Aldehyde	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	<0.1	<0.1	<0.1	<0.1	<0.1
eptachlor Epoxide	<0.1	<0.1	<0.1	<0.1	<0.1
Chlordane	<2.0	<2.0	<2.0	<2.0	<2.0
oxaphene	<2.0	<2.0	<2.0	<2.0	<2.0

NOTE: All results expressed in ug/L unless noted otherwise.

CAMO LOG NO.: 36-12-2564

VOLATILES

PARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
Chloromethane	<1	<1	<1	<1	<1
Bromomethane	<1	<1	<1	<1	<1
Vinyl Chloride	<1	<1	<1	<1	<1
Chloroethane	<1	<1	<1	<1	<1
Methylene Chloride	<1	<1	<1	<1	<1
Xylenes	<3	<3	<3	<3	260
1,1-Dichloroethylene	<1	<1	<1	<1	<1
1,1-Dichloroethane	<1	<1	<1	<1	<1
Trans-1,2-dichloroethylene	<1	<1	<1	<1	<1
Dichlorodifluoromethane	<1	<1	<1	<1	<1
Chloroform	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	<1	<1	<1	<1	<1
Carbon Tetrachloride	<1	<1	<1	<1	<1
Bromodichloromethane	<1	<1	<1	<1	<1
1,2-Dichloropropane	<1	<1	<1	<1	<1

NOTE: [illegible]

CAMO LOG NO.: 86-12-2564

VOLATILES

ARAMETERS	SAMPLE IDENTIFICATIONS				
	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
Trans-1,3-dichloropropene	<1	<1	<1	<1	<1
Trichloroethylene	<1	<1	<1	<1	<1
ibromochloromethane	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	<1	<1	<1	<1	<1
,1,2-Trichloroethane	<1	<1	<1	<1	<1
Benzene	<1	<1	<1	<1	100
2-Chloroethylvinyl Ether	<10	<10	<10	<10	<10
romoform	<5	<5	<5	<5	<5
Tetrachloroethylene	<1	<1	<1	<1	5
,1,2,2-Tetrachloroethane	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	600
Chlorobenzene	<1	<1	<1	<1	<1
thylbenzene	<1	<1	<1	<1	47
Acrolein	<100	<100	<100	<100	<100
crylonitrile	<100	<100	<100	<100	<100

NOTE: All results expressed in ug/L unless noted otherwise.

REFERENCE # 12
64 = 125

NO.: 86-12-2564

ACID EXTRACTABLE ORGANIC COMPOUNDS

SAMPLE IDENTIFICATIONS

	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
	<10	<10	<10	<10	<10
henol	<10	<10	<10	<10	<10
nol	<50	<50	<50	<50	<50
itrophenol	<50	<50	<50	<50	<50
o-o-cresol	<50	<50	<50	<50	<50
ophenol	<50	<50	<50	<50	<50
-m-cresol	<10	<10	<10	<10	<10
henol	<10	<10	<10	<10	<10
hlorophenol	<10	<10	<10	<10	<10
chlorophenol	<10	<10	<10	<10	<10
ethylphenol	<10	<10	<10	<10	<10

All results expressed in ug/l unless noted otherwise.

RESERVOIR # 12
70 F 125

CAMO LOG NO.: 86-12-2564

PRIORITY POLLUTANT METALS *

SAMPLE IDENTIFICATIONS

ARAMETERS	A Well #1	B Well #3	C Well #4	D Well #5	E Well #2
Antimony	<0.01	<0.01	<0.01	<0.01	<0.01
rsenic	<0.005	<0.005	<0.005	<0.005	<0.005
eryllium	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium	<0.01	<0.01	<0.01	<0.01	0.01
hromium	<0.03	<0.03	<0.03	<0.03	<0.03
Copper	<0.01	<0.01	<0.01	<0.01	0.04
ead	<0.005	<0.005	<0.005	<0.005	0.020
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	0.0003
Nickel	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.01	<0.01	<0.01	<0.01	0.02
Thallium	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	0.03	0.02	0.01	0.01	0.08
Cyanide	<0.02	<0.02	<0.02	<0.02	<0.02
Phenol (ug/L)	<10	11	16	11	30

NOTE: All results expressed in mg/L unless noted otherwise.

*Metal analysis run on filtered samples

..PTH	S...IC	COLUMN	DIAMETER	IN WELL	H_2O EVACUATED	METHOD	FILTERED	--	C...ENTS
45'	21'0"	24'	4"	15.36	>75	sub pump	12/8/86	IB	
49' From grade	artesian	52'	2 1/2"	11.67	>60	Centri-fugal Pump	12/8/86	LB	
14' From grade	4'6"	9'6"	2 1/2"	2.17	>11	Centri-fugal Pump	12/8/86	LB	
22' From grade	4'10"	17'2"	2 1/2"	3.85	>20	Centri-fugal Pump	12/8/86	IB	
10'	9'1"	11"	4"	0.59	>3	Bailer	12/10/86	MAM	

REFERENCE # 12
PAGE 71 OF 125

REFERENCE # 12
Page 12 of 125

CAMO LABORATORIES

367 Violet Avenue
Poughkeepsie, N.Y. 12601

CHAIN OF CUSTODY

CLIENT	Dover Landfill	SAMPLER	Chris Harden

SAMPLE NO.	SAMPLE ID, LOCATION CONTAINER	DATE	TIME A=a.m. P=p.m.	MATRIX	Comp.	Grab	No. of CONT'S	ANALYSIS REQUIRED
1	Well #3, VOA 2, P1 Qts. LP1, P4 1 G1, Gal 1 G1. Qt.	12/5	A / P	Water		✓	8	
2	Well #3 " "	12/5	A / P	|		✓	8	
3	Well #4 " "	12/5	A / P	|		✓	8	
4	Well #5 " "	12/5	A / P	|		✓	8	
		/	A / P					
			A / P					
			A / P					
			A / P					
			A / P					
			A / P					
			A / P					
			A / P					
			A / P					

		Date/Time
Relinquished by: Joseph J. Brzozowski	Received by: Chris Harden	12/5/86
Relinquished by:	Received by:	Date/Time
Dispatched by: Date/Time	Received for Laboratory by:	Date/Time

Method of Shipment:

CAMO LABORATORIES

FIELD COLLECTION SHEET

JOB # CLIENT Bibbo Assoc. (c/o Dover Landfill) DATE 12/5/86 COLLECTED BY CH

Sample Pt - Well # 5

Sample I.D. -

Time Collected -

Weather - Clear, Cold

Containers Filled - 2, Pl. Qts. 3, VOAs 1, G1. Gal. 1, G1. Qt. 1, Pl. Pt.

Sampling Procedure

X Grab 0 Composite (Hrs.___)

Equipment Used -

Bailer

Observations -

Heavy Grey Silt

PH 7.83

Sample Pt - Well # 3

Sample I.D. -

Time Collected -

Weather - Clear, Cold

Containers Filled - 2, Pl. Qts. 3, VOAs 1, G1. Gal. 1, G1. Qt. 1, Pl. Pt.

Sampling Procedure

0 Grab 0 Composite (Hrs.___)

Equipment Used -

Bailer

Observations -

Artesion Well Flows about 1 Gal. per Min.

Sample Pt - Well # 4

Sample I.D. -

Time Collected -

Weather - Clear, Cold

Containers Filled - 2, Pl. Qts. 3, VOAs 1, G1. Gal. 1, G1. Qt. 1, Pl. Pt.

Sampling Procedure

X Grab 0 Composite (Hrs.___)

Equipment Used -

Bailer

Observations -

Heavy Grey Silt

REFERENCE # 12
PAGE 73 OF 125

CAMO LAB., INC.

FIELD COLLECTION SHEET

JOB #   CLIENT Bibbo Assoc. (T/O Power landfill) DATE 12/5/86   COLLECTED BY C.H.

Sample Pt - Well #1	Sample Pt -	Sample Pt -
Sample I.D. -	Sample I.D. -	Sample I.D. -
Time Collected -	Time Collected -	Time Collected -
Weather -	Weather -	Weather -
Containers Filled - 2, Pl. Qts. 1, Gl. Gal. 1, Gl. Qt. 1, Pl. Pt. 3, VOAs	Containers Filled -	Containers Filled -
Sampling Procedure	Sampling Procedure	Sampling Procedure
X Grab 0 Composite (Hrs.___)	0 Grab 0 Composite (Hrs.___)	0 Grab 0 Composite (Hrs.___)
Equipment Used - Bailer	Equipment Used -	Equipment Used -
Observations - PH 7.23	Observations -	Observations -

PAGE 74 OF 125   12

APPENDIX E

BIBBO ASSOCIATES
CONSULTING ENGINEERS-PLANNERS
ROUTE 22 & HARDSCRABBLE ROAD
CROTON FALLS, NEW YORK 10519

LEONARD J. BIBBO, P.E.
JOHN P. McNAMARA, P.E.
JOSEPH J. BUSCHYNSKI, P.E.

PLANNING
SITE DESIGN
ENVIRONMENTAL
(914) 277-5805

June 9, 1986

New York State
Department of Environmental Conservation
21 So. Putt Corners Road
New Paltz, New York 12561

ATTN: Mr. Lawrence Gallagher

RE: Dover Landfill

Dear Mr. Gallagher:

As per your request, we are enclosing herewith two (2) copies of a cross section of the existing landfill. As discussed, the original ground contours were taken from the U.S.G.S. mapping since no other information was available to us. The soil data was obtained by test pits taken on May 9, 1986 and observed by Robin Greer of your office.

The soil generally found on the high side of the original ground, in the vicinity of the landfill, consisted of 8" of topsoil, 24" to 30" of sandy loam, with ledge rock immediately following. Water entered the excavation immediately above the ledge rock and appeared to be traveling along the surface of the ledge rock.

The soil found at the base of the landfill and in the swamp consisted uniformly of 12 inches of black organic soil, 5 inches of dark grey clay and medium grey sand below. To a depth of four feet below the surface, the sand contained no free water but was damp to the touch. Free water consistently encountered between the bottom of the organic soil and the top of the clay layer. The clay was highly plastic and there was no penetration of this water below the surface of the clay layer. About eight tests were made, adjacent to the landfill and up to approximately 50 feet distant in the swamp.

REFERENCE # 12
77 / 125

Dover Landfill (Con't)

This date, Roger Case, Soil Scientist, U.S.S.C.S. has informed me that the swamp material is classified as Carlisle Muck. Carlisle is a deep, poorly drained soil formed in deposits of organic material that are more than 51 inches thick. Mr. Case informed me that in this area the Carlisle would lie above sand and gravel deposits. Upon describing the conditions I found, he thought that this could possibly be due to an old lake being filled in as the glaciers retreated. He said that eventually the clay layer would disappear as the muck got deeper. He also said that the level of the ground water would be controlled by the stream in the area due to the presence of the sand and gravel formation.

While the above does not shed much light on the potential pollution of the ground water table, we offer the following thoughts:

1. The leachate leaving the landfill appears minimal. As discussed with you, we found small amounts of leachate on the surface of the muck, but it did not appear to have penetrated the muck or to have travelled a great distance from the landfill. We think this is significant given the length of time the landfill has been in existence.

2. Placement of a collector drain would mean penetration of the clay layer. With the amount of ground water existing above the clay layer, this could mean direct introduction of the leachate into the substratum.

3. Even if the clay layer eventually disappears and the muck does get thicker, it would appear there would be little likelihood of the leachate penetrating into the ground water table, since at this time we could find no evidence of the leachate having penetrated the surface layer of the muck adjacent to the landfill.

As discussed, we believe part of the answer to the problem may be revealed when the wells are installed.

We are also enclosing a copy of a report from Mr. Robert Spinna, P.E., regarding the quality of soil obtained from the Dover Sand and Stone Company, for your review. We would appreciate knowing if the Department concurs with the use of this material as a landfill cover.

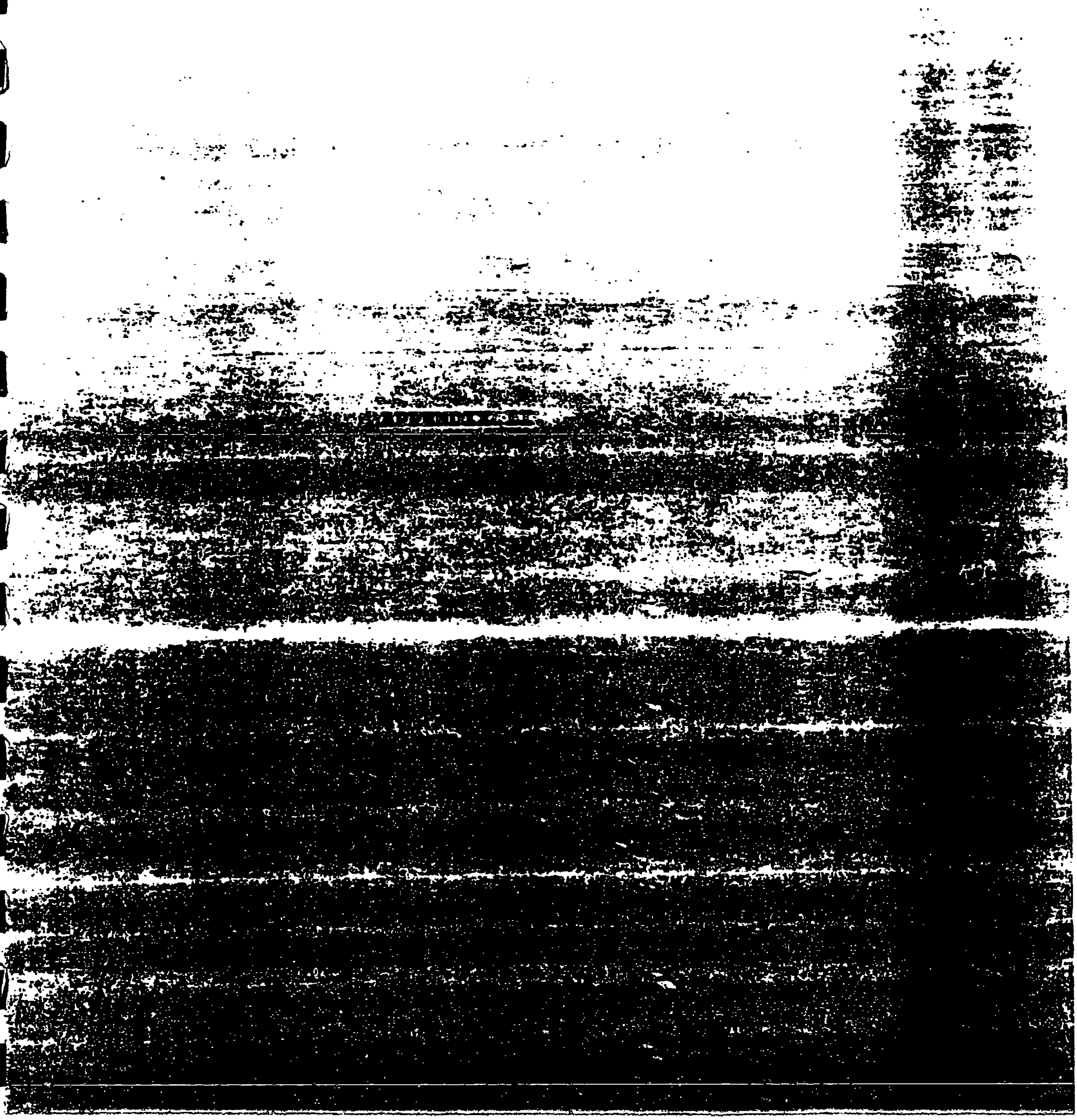
Very truly yours,

Leonard J Bibbo

Leonard J. Bibbo, P. E.

LJB/db
Enc.

cc: Dover Town Board



HEALTH AND SAFETY PLAN

Onsite Health and Safety Officer:

The onsite Health and Safety officer for this project will be Mary Palumbo of Leggette, Brashears & Graham, Inc. Her duties as Health and Safety officer will include inspection of onsite activities and supervision of field personnel with regard to:

- health and safety program compliance;
- maintaining a high level of health and safety consciousness among employees at the work site;
- reporting accidents within her jurisdiction and undertaking corrective action; and
- promptly initiating emergency alerts, if required.

Field Personnel.

All field personnel will report directly to the onsite Health and Safety officer and will be required to:

- be familiar with, and conform to, provisions of the Health and Safety Plan.

- ensure that they are well informed of potential hazards at the work site;

- report any accidents or hazardous conditions to to the onsite Health and Safety officer; and

- have complete familiarity with their job requirements and the Health and Safety procedures involved.

Prior to the start of field activities, a meeting will be held to discuss the potential hazards at the site. As needed, daily meetings will be held to discuss any changes in the hazards.

HAZARD EVALUATION

Onsite field activities present certain hazards, including the presence of shards of metal and broken glass underfoot and biological hazards such as ticks and mosquitoes.

CONTINGENCY PLAN FOR EMERGENCIES

In the event of a safety or health emergency, appropriate corrective measures will be taken to assist those who have been injured or exposed and to protect others from hazards. The onsite Health and Safety officer will be notified of the incident immediately.

For the purposes of this Health and Safety Plan, an emergency is defined as an unplanned combination of circumstances that creates a dangerous or harmful situation requiring immediate action. Below are listed several common examples of emergencies and their immediate response actions:

Emergency	Response Action
Heat stress	Call hospital
Physical injury	Call hospital
Accidental chemical release	Call fire department
Chemical exposure	Call hospital
Fire	Call fire department
Explosion	Call fire department and police

The following Safety Fact Sheet is provided in the event of an emergency.

Any site emergency will be coordinated by the onsite Health and Safety officer. In the event of chemical exposure or serious physical injury, the New Milford Hospital has a 24-hour emergency room. The New Milford Hospital is located on the map included at the end of this section.

SAFETY FACT SHEET

Dutchess County Sheriff's Department	(914) 452-0400
New York State Police - Substation, Dover	(914) 677-6321
Dover Fire District	(914) 452-1232
Ambulance	(914) 471-1414
Dover Plans Town Supervisor: (George Raimo)	(914) 832-6130
New Milford Hospital:	(203) 355-2611

MP:srf
May 2, 1990
h&Splan/90-7

REFERENCE # 12
PAGE 82 OF 125

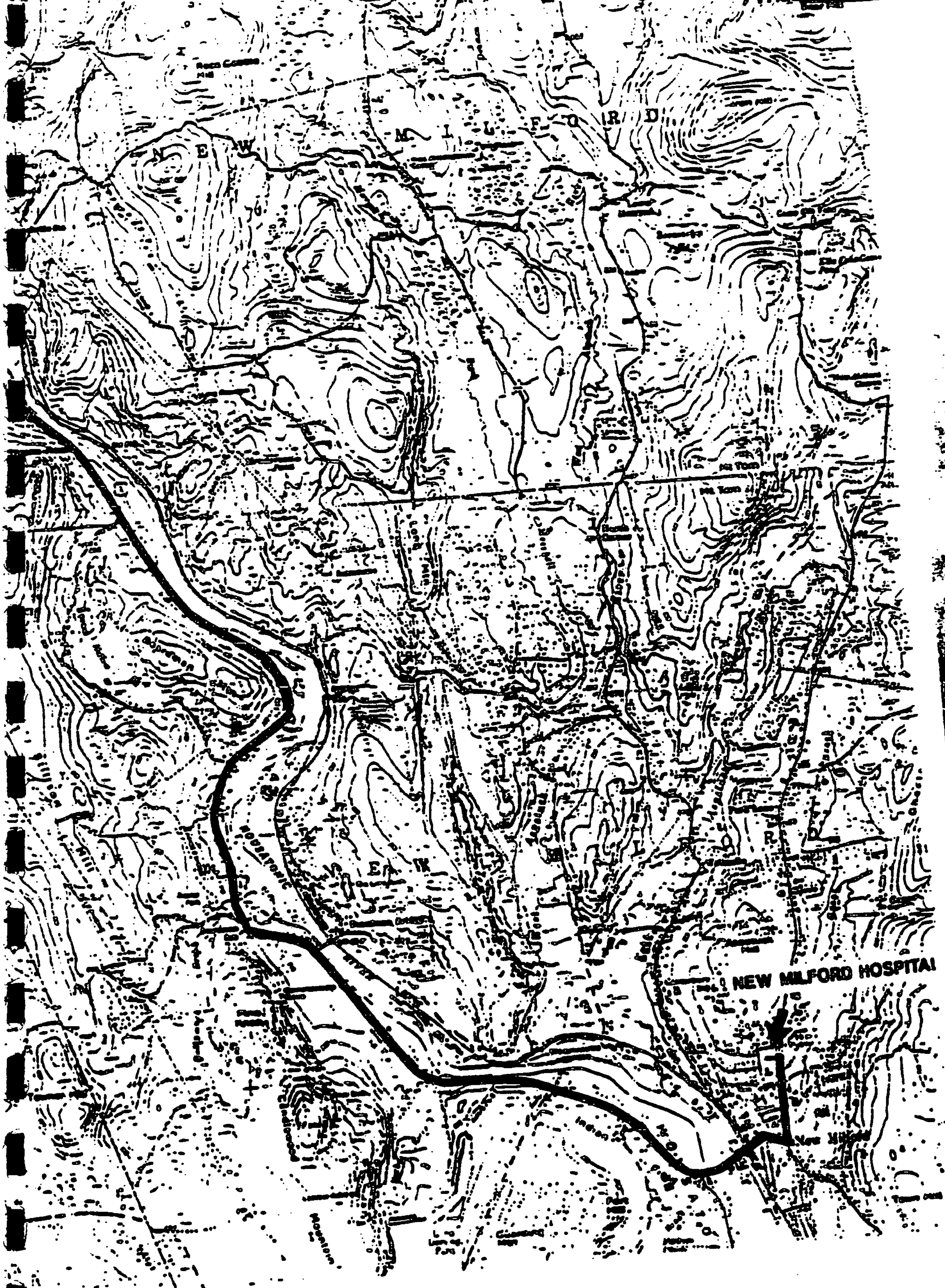


FIGURE 2

APPENDIX III

LEGGETTE ... RECEIVED JUL 13 1990

ANALYTICAL REPORT

Company:

Town of Dover
RD #2, Box 133
East Ducan Hill Road
Dover Plains NY 12522

Report Summary

Report Date: 27-JUN-90

Project: STANDARD

Lab Number: 87607

Sample Number(s): 87607-001 to 87607-008

Ronald A. Bayer
Laboratory Director

REFERENCE # 12
PAGE 86 OF 125

Inorganics Analysis Data Sheet

me: TOWN OF DOVER

lumber: 87607-001 Project Name: STANDARD

ected: 23-MAY-90 Matrix: 2 GW/WW

ceived: 23-MAY-90

cation: SEEP

s:

s	Result	Units	Method	Analyzed
AG	<0.01	MG/L	EPA 200.7	29-MAY-90
AL	1.8	MG/L	EPA 200.7	29-MAY-90
AS	9.6	UG/L	EPA 206.2	29-MAY-90
BA	0.33	MG/L	EPA 200.7	30-MAY-90
BE	<0.005	MG/L	EPA 200.7	29-MAY-90
CA	170	MG/L	EPA 200.7	30-MAY-90
CD	<0.005	MG/L	EPA 200.7	29-MAY-90
CN	<0.005	MG/L	EPA 335.2	30-MAY-90
CO	<0.05	MG/L	EPA 200.7	30-MAY-90
CR	<0.01	MG/L	EPA 200.7	29-MAY-90
CU	<0.01	MG/L	EPA 200.7	29-MAY-90
FE	84	MG/L	EPA 200.7	29-MAY-90
HG	<0.4	UG/L	EPA 245.1	12-JUN-90
K	50	MG/L	EPA 200.7	30-MAY-90
MG	100	MG/L	EPA 200.7	30-MAY-90
MN	1.2	MG/L	EPA 200.7	29-MAY-90
NA	110	MG/L	EPA 200.7	30-MAY-90

Sample Number: 87607-001 continued

Analysis	Result	Units	Method	Analyzed
NI	<0.04	MG/L	EPA 200.7	29-MAY-90
PB	<5.0	UG/L	SW846 7421	29-MAY-90
SB	<50	UG/L	EPA 204.2	19-JUN-90
SE	<5.0	UG/L	EPA 270.2	06-JUN-90
TL	<10	UG/L	EPA 279.2	05-JUN-90
V	<0.05	MG/L	EPA 200.7	30-MAY-90
ZN	0.08	MG/L	EPA 200.7	29-MAY-90

Remarks:

REFERENCE # 12
PAGE 88 OF 125

VOLATILE ORGANICS ANALYSIS DATA SHEET

ient Name: (T) Dover
oject Name:
mple Location: Seep
atrix: waste
thod: SW846-8240

Lab Number: 87607-001
Date Collected: 5/23/90
Date Received: 5/23/90
Date Analyzed: 6/6/90
Report Date: 7/26/90

S NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
-87-3	Chloromethane	10		U
-83-9	Bromomethane	10		U
-01-4	Vinyl chloride	10		U
-00-3	Chloroethane	10		U
-09-2	Methylene chloride	1C		U
-64-1	Acetone	10		U
-15-0	Carbon disulfide	5.0		U
-35-4	1,1-Dichloroethene	5.0		U
-34-3	1,1-Dichloroethane	5.0		U
0-59-0	trans-1,2-Dichloroethene	5.0		U
-66-3	Chloroform	5.0		U
7-02-2	1,2-Dichloroethane	5.0		U
-93-3	2-Butanone	10		U
-55-6	1,1,1-Trichloroethane	5.0		U
-23-5	Carbon tetrachloride	5.0		U
8-05-4	Vinyl acetate	10		U
-27-4	Bromodichloromethane	5.0		U
-87-5	1,2-Dichloropropane	5.0		U
0061-01-5	cis-1,3-Dichloropropene	5.0		U
-01-6	Trichloroethene	5.0		U
-43-2	Benzene	5.0	4.4	J
4-48-1	Dibromochloromethane	5.0		U
0061-02-6	trans-1,3-Dichloropropene	5.0		U
-00-5	1,1,2-Trichloroethane	5.0		U
5-25-2	Bromoform	5.0		U
08-10-1	4-Methyl--2-pentanone	10		U
91-78-6	2-Hexanone	10		U
-34-5	1,1,2,2-Tetrachloroethane	5.0		U
27-18-4	Tetrachloroethene	5.0		U
08-88-3	Toluene	5.0		U
08-90-7	Chlorobenzene	5.0	10	
00-41-4	Ethylbenzene	5.0		U
00-42-5	Styrene	5.0		U
33-02-7	m-Xylene	5.0		U
33-02-7	o,p-Xylene	5.0		U

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: Seep

Matrix: waste

Method: EPA 624

Lab Number: 87607-001

Date Collected: 5/23/90

Date Received: 5/23/90

Date Analyzed: 6/6/90

Report Date: 6/27/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	5.0		U
75-69-4	Trichlorofluoromethane	5.0		U
75-35-4	1,1-Dichloroethene	5.0		U
75-34-3	1,1-Dichloroethane	5.0		U
540-59-0	trans-1,2-Dichloroethene	5.0		U
67-66-3	Chloroform	5.0		U
107-02-2	1,2-Dichloroethane	5.0		U
71-55-6	1,1,1-Trichloroethane	5.0		U
56-23-5	Carbon tetrachloride	5.0		U
75-27-4	Bromodichloromethane	5.0		U
78-87-5	1,2-Dichloropropane	5.0		U
10061-01-5	cis-1,3-Dichloropropene	5.0		U
79-01-6	Trichloroethene	5.0		U
71-43-2	Benzene	5.0	4.4	J
124-48-1	Dibromochloromethane	5.0		U
10061-02-6	trans-1,3-Dichloropropene	5.0		U
79-00-5	1,1,2-Trichloroethane	5.0		U
100-75-8	2-Chloroethylvinyl ether	5.0		U
75-25-2	Bromoform	5.0		U
79-34-5	1,1,2,2-Tetrachloroethane	5.0		U
127-18-4	Tetrachloroethene	5.0		U
108-88-3	Toluene	5.0		U
108-90-7	Chlorobenzene	5.0	10	
100-41-4	Ethylbenzene	5.0		U
541-73-1	1,3-Dichlorobenzene	5.0	5.2	
95-50-1	1,2-Dichlorobenzene	5.0		U
106-46-7	1,4-Dichlorobenzene	5.0		U

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: Seep

Matrix: waste

Method: EPA 625

Lab Number: 87607-001

Date Collected: 5/23/90

Date Received: 5/23/90

Date Extracted: 5/25/90

Date Analyzed: 6/9/90

Report Date: 6/19/90

.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier	CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
5-2	Phenol	10		U	121-14-2	2,4-Dinitrotoluene	10		U
4-4	bis(-2-Chloroethyl)Ether	10		U	84-66-2	Diethylphthalate	10		U
7-8	2-Chlorophenol	10		U	7005-72-3	4-Chlorophenyl-phenylether	10		U
73-1	1,3-Dichlorobenzene	10		U	86-73-7	Fluorene	10		U
6-7	1,4-Dichlorobenzene	10		U	534-52-1	4,6-Dinitro-2-methylphenol	50		U
-1	1,2-Dichlorobenzene	10		U	86-30-6	N-Nitrosodiphenylamine *	10		U
8-32-9	bis(2-chloroisopropyl)ether	10		U	101-55-3	4-Bromophenyl-phenylether	50		U
4-7	N-Nitroso-Di-n-propylamine	10		U	118-74-1	Hexachlorobenzene	10		U
-1	Hexachloroethane	10		U	87-86-5	Pentachlorophenol	50		U
5-3	Nitrobenzene	10		U	85-01-8	Phenanthrene	10		U
9-1	Isophorone	10		U	120-12-7	Anthracene	10		U
5-5	2-Nitrophenol	10		U	84-74-2	Di-n-butylphthalate	10		U
67-9	2,4-Dimethylphenol	10		U	206-44-0	Fluoranthene	10		U
91-1	bis(-2-Chloroethoxy)methane	10		U	129-00-0	Pyrene	10		U
83-2	2,4-Dichlorophenol	10		U	92-87-5	Benzidine	20		U
82-1	1,2,4-Trichlorobenzene	10		U	85-68-7	Butylbenzylphthalate	10		U
0-3	Naphthalene	10		U	91-94-1	3,3'-Dichlorobenzidine	10		U
8-3	Hexachlorobutadiene	10		U	56-55-3	Benzo(a)anthracene	10		U
0-7	4-Chloro-3-methylphenol	10		U	218-01-9	Chrysene	10		U
7-4	Hexachlorocyclopentadiene	10		U	117-81-7	bis(2-Ethylhexyl)phthalate	10		U
6-2	2,4,6-Trichlorophenol	10		U	117-84-0	Di-n-octylphthalate	10		U
8-7	2-Chloronaphthalene	10		U	205-99-2	Benzo(b)fluoranthene	10		U
-11-3	Dimethylphthalate	10		U	207-08-9	Benzo(k)fluoranthene	10		U
-96-8	Acenaphthylene	10		U	50-32-8	Benzo(a)pyrene	10		U
-20-2	2,6-Dinitrotoluene	10		U	193-39-5	Indeno(1,2,3-cd)pyrene	10		U
32-9	Acenaphthene	10		U	53-70-3	Dibenzo(a,h)anthracene	10		U
28-5	2,4-Dinitrophenol	50		U	191-24-2	Benzo(g,h,i)perylene	10		U
-02-7	4-Nitrophenol	50		U	62-75-9	N-Nitrosodimethylamine	10		U

* Cannot be separated from diphenylamine

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover
Project Name:
Sample Location: Seep
Matrix: waste
Method: EPA 608

Lab Number: 87607-001
Date Collected: 5/23/90
Date Received: 5/23/90
Date Extracted: 5/25/90
Date Analyzed: 6/1/90
Report Date: 6/15/90

S NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
19-84-6	alpha-BHC	0.25		U
19-85-7	beta-BHC	0.25		U
19-86-8	delta-BHC	0.25		U
8-89-9	gamma-BHC(Lindane)	0.25		U
6-44-8	Heptachlor	0.25		U
09-00-2	Aldrin	0.25		U
024-57-3	Heptachlor epoxide	0.25		U
59-98-8	Endosulfan I	0.25		U
0-57-1	Dieldrin	0.50		U
2-55-9	4,4'-DDE	0.50		U
2-20-8	Endrin	0.50		U
3213-65-9	Endosulfan II	0.50		U
2-54-8	4,4'-DDD	0.50		U
031-07-8	Endosulfan sulfate	0.50		U
0-29-3	4,4'-DDT	0.50		U
421-93-4	Endrin aldehyde	0.10		U
7-74-9	Chlordane	0.50		U
001-35-2	Toxaphene	5.0		U
2674-11-2	Arochlor-1016	2.50		U
1104-28-2	Arochlor-1221	2.50		U
1141-16-5	Arochlor-1232	2.50		U
3469-21-9	Arochlor-1242	2.50		U
2672-29-6	Arochlor-1248	2.50		U
1097-69-1	Arochlor-1254	2.50		U
1096-82-5	Arochlor-1260	2.50		U

Inorganics Analysis Data Sheet

Client Name: TOWN OF DOVER

Sample Number: 87607-002

Project Name: STANDARD

Date Collected: 23-MAY-90

Matrix: 2 GW/WW

Date Received: 23-MAY-90

Sample Location: MW-1

Comments:

Analysis	Result	Units	Method	Analyzed
AG	<0.01	MG/L	EPA 200.7	29-MAY-90
AL	0.79	MG/L	EPA 200.7	29-MAY-90
AS	<5.0	UG/L	EPA 206.2	29-MAY-90
BA	<0.05	MG/L	EPA 200.7	30-MAY-90
BE	<0.005	MG/L	EPA 200.7	29-MAY-90
CA	70	MG/L	EPA 200.7	30-MAY-90
CD	<0.005	MG/L	EPA 200.7	29-MAY-90
CN	<0.005	MG/L	EPA 335.2	30-MAY-90
CO	<0.05	MG/L	EPA 200.7	30-MAY-90
CR	<0.01	MG/L	EPA 200.7	29-MAY-90
CU	0.01	MG/L	EPA 200.7	29-MAY-90
FE	0.63	MG/L	EPA 200.7	29-MAY-90
HG	<0.4	UG/L	EPA 245.1	12-JUN-90
K	0.82	MG/L	EPA 200.7	30-MAY-90
MG	37	MG/L	EPA 200.7	30-MAY-90
MN	0.15	MG/L	EPA 200.7	29-MAY-90
NA	1.7	MG/L	EPA 200.7	30-MAY-90

Sample Number: 87607-002 continued

Analysis	Result	Units	Method	Analyzed
NI	<0.04	MG/L	EPA 200.7	29-MAY-90
PB	<5.0	UG/L	SW846 7421	29-MAY-90
SB	<50	UG/L	EPA 204.2	19-JUN-90
SE	<5.0	UG/L	EPA 270.2	06-JUN-90
TL	<10	UG/L	EPA 279.2	05-JUN-90
V	<0.05	MG/L	EPA 200.7	30-MAY-90
ZN	0.01	MG/L	EPA 200.7	29-MAY-90

Remarks:

318 [illegible]
[illegible], NY [illegible]

VOLATILE ORGANICS ANALYSIS DATA SHEET

ient Name: (T) Dover

oject Name:

ample Location: MW-1

atrix: waste

ethod: SW846-8240

Lab Number: 87607-002

Date Collected: 5/23/90

Date Received: 5/23/90

Date Analyzed: 6/6/90

Report Date: 7/26/90

S NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
-87-3	Chloromethane	10		U
-83-9	Bromomethane	10		U
-01-4	Vinyl chloride	10		U
-00-3	Chloroethane	10		U
-09-2	Methylene chloride	10		U
-64-1	Acetone	10		U
-15-0	Carbon disulfide	5.0		U
-35-4	1,1-Dichloroethene	5.0		U
-34-3	1,1-Dichloroethane	5.0		U
0-59-0	trans-1,2-Dichloroethene	5.0		U
-66-3	Chloroform —	5.0		U
7-02-2	1,2-Dichloroethane	5.0		U
-93-3	2-Butanone	10		U
-55-6	1,1,1-Trichloroethane	5.0		U
-23-5	Carbon tetrachloride	5.0		U
8-05-4	Vinyl acetate	10		U
-27-4	Bromodichloromethane	5.0		U
-87-5	1,2-Dichloropropane	5.0		U
061-01-5	cis-1,3-Dichloropropene	5.0		U
-01-6	Trichloroethene	5.0		U
-43-2	Benzene	5.0		U
24-48-1	Dibromochloromethane	5.0		U
061-02-6	trans-1,3-Dichloropropene	5.0		U
-00-5	1,1,2-Trichloroethane	5.0		U
-25-2	Bromoform	5.0		U
8-10-1	4-Methyl--2-pentanone	10		U
1-78-6	2-Hexanone	10		U
-34-5	1,1,2,2-Tetrachloroethane	5.0		U
27-18-4	Tetrachloroethene	5.0		U
8-88-3	Toluene	5.0		U
8-90-7	Chlorobenzene	5.0		U
0-41-4	Ethylbenzene	5.0		U
0-42-5	Styrene	5.0		U
33-02-7	m-Xylene	5.0		U
33-02-7	o,p-Xylene	5.0		U

VOLATILE ORGANICS ANALYSIS DATA SHEET

(T) Dover

ion: MW-1

e

624

Lab Number: 87607-002

Date Collected: 5/23/90

Date Received: 5/23/90

Date Analyzed: 6/6/90

Report Date: 6/27/90

COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
Chloromethane	10		U
romomethane	10		U
inyl chloride	10		U
Chloroethane	10		U
ethylene chloride	5.0		U
richlorofluoromethane	5.0		U
1,1-Dichloroethene	5.0		U
1,1-Dichloroethane	5.0		U
trans-1,2-Dichloroethene	5.0		U
Chloroform	5.0		U
1,2-Dichloroethane	5.0		U
1,1,1-Trichloroethane	5.0		U
Carbon tetrachloride	5.0		U
Bromodichloromethane	5.0		U
1,2-Dichloropropane	5.0		U
cis-1,3-Dichloropropene	5.0		U
Trichloroethene	5.0		U
Benzene	5.0		U
Dibromochloromethane	5.0		U
trans-1,3-Dichloropropene	5.0		U
1,1,2-Trichloroethane	5.0		U
2-Chloroethylvinyl ether	5.0		U
Bromoform	5.0		U
1,1,2,2-Tetrachloroethane	5.0		U
Tetrachloroethene	5.0		U
Toluene	5.0		U
Chlorobenzene	5.0		U
Ethylbenzene	5.0		U
1,3-Dichlorobenzene	5.0		U
1,2-Dichlorobenzene	5.0		U
1,4-Dichlorobenzene	5.0		U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover
Project Name:
Sample Location: MW-1
Matrix: waste
Method: EPA 625

Lab Number: 87607-002
Date Collected: 5/23/90
Date Received: 5/23/90
Date Extracted: 5/25/90
Date Analyzed: 6/9/90
Report Date: 6/19/90

	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier	CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
-2	Phenol	10		U	121-14-2	2,4-Dinitrotoluene	10		U
	bis(-2-Chloroethyl)Ether	10		U	84-66-2	Diethylphthalate	10		U
	2-Chlorophenol	10		U	7005-72-3	4-Chlorophenyl-phenylether	10		U
-1	1,3-Dichlorobenzene	10		U	86-73-7	Fluorene	10		U
7	1,4-Dichlorobenzene	10		U	534-52-1	4,6-Dinitro-2-methylphenol	50		U
	1,2-Dichlorobenzene	10		U	86-30-6	N-Nitrosodiphenylamine *	10		U
32-9	bis(2-chloroisopropyl)ether	10		U	101-55-3	4-Bromophenyl-phenylether	50		U
7	N-Nitroso-Di-n-propylamine	10		U	118-74-1	Hexachlorobenzene	10		U
	Hexachloroethane	10		U	87-86-5	Pentachlorophenol	50		U
3	Nitrobenzene	10		U	85-01-8	Phenanthrene	10		U
1	Isophorone	10		U	120-12-7	Anthracene	10		U
	2-Nitrophenol	10		U	84-74-2	Di-n-butylphthalate	10		U
9	2,4-Dimethylphenol	10		U	206-44-0	Fluoranthene	10		U
-1	bis(-2-Chloroethoxy)methane	10		U	129-00-0	Pyrene	10		U
2	2,4-Dichlorophenol	10		U	92-87-5	Benzidine	20		U
1	1,2,4-Trichlorobenzene	10		U	85-68-7	Butylbenzylphthalate	10		U
-3	Naphthalene	10		U	91-94-1	3,3'-Dichlorobenzidine	10		U
-3	Hexachlorobutadiene	10		U	56-55-3	Benzo(a)anthracene	10		U
7	4-Chloro-3-methylphenol	10		U	218-01-9	Chrysene	10		U
4	Hexachlorocyclopentadiene	10		U	117-81-7	bis(2-Ethylhexyl)phthalate	10		U
-2	2,4,6-Trichlorophenol	10		U	117-84-0	Di-n-octylphthalate	10		U
7	2-Chloronaphthalene	10		U	205-99-2	Benzo(b)fluoranthene	10		U
-3	Dimethylphthalate	10		U	207-08-9	Benzo(k)fluoranthene	10		U
5-8	Acenaphthylene	10		U	50-32-8	Benzo(a)pyrene	10		U
-2	2,6-Dinitrotoluene	10		U	193-39-5	Indeno(1,2,3-cd)pyrene	10		U
9	Acenaphthene	10		U	53-70-3	Dibenzo(a,h)anthracene	10		U
5	2,4-Dinitrophenol	50		U	191-24-2	Benzo(g,h,i)perylene	10		U
2-7	4-Nitrophenol	50		U	62-75-9	N-Nitrosodimethylamine	10		U

Cannot be separated from diphenylamine

310 Fullerton Avenue
Newburgh, NY 12550

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: MW-1

Matrix: waste

Method: EPA 608

Lab Number: 87607-002

Date Collected: 5/23/90

Date Received: 5/23/90

Date Extracted: 5/25/90

Date Analyzed: 6/1/90

Report Date: 6/15/90

S NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
9-84-6	alpha-BHC	0.05		U
9-85-7	beta-BHC	0.05		U
9-86-8	delta-BHC	0.05		U
3-89-9	gamma-BHC(Lindane)	0.05		U
5-44-8	Heptachlor	0.05		U
09-00-2	Aldrin	0.05		U
024-57-3	Heptachlor epoxide	0.05		U
59-98-8	Endosulfan I	0.05		U
0-57-1	Dieldrin	0.10		U
2-55-9	4,4'-DDE	0.10		U
2-20-8	Endrin	0.10		U
3213-65-9	Endosulfan II	0.10		U
2-54-8	4,4'-DDD	0.10		U
031-07-8	Endosulfan sulfate	0.10		U
0-29-3	4,4'-DDT	0.10		U
421-93-4	Endrin aldehyde	0.10		U
7-74-9	Chlordane	0.50		U
001-35-2	Toxaphene	1.0		U
2674-11-2	Arochlor-1016	0.50		U
1104-28-2	Arochlor-1221	0.50		U
1141-16-5	Arochlor-1232	0.50		U
3469-21-9	Arochlor-1242	0.50		U
2672-29-6	Arochlor-1248	0.50		U
1097-69-1	Arochlor-1254	0.50		U
1096-82-5	Arochlor-1260	0.50		U

310 [illegible]
[illegible], NY [illegible]
(914) [illegible]

Inorganics Analysis Data Sheet

Client Name: TOWN OF DOVER

Sample Number: 87607-003

Project Name: STANDARD

Date Collected: 23-MAY-90

Matrix: 2 GW/WW

Date Received: 23-MAY-90

Sample Location: MW-2

Comments:

Analysis	Result	Units	Method	Analyzed
AG	<0.01	MG/L	EPA 200.7	29-MAY-90
AL	0.67	MG/L	EPA 200.7	29-MAY-90
AS	<5.0	UG/L	EPA 206.2	29-MAY-90
BA	<0.05	MG/L	EPA 200.7	30-MAY-90
BE	<0.005	MG/L	EPA 200.7	29-MAY-90
CA	53	MG/L	EPA 200.7	30-MAY-90
CD	<0.005	MG/L	EPA 200.7	29-MAY-90
CO	<0.05	MG/L	EPA 200.7	30-MAY-90
CR	<0.01	MG/L	EPA 200.7	29-MAY-90
CU	<0.01	MG/L	EPA 200.7	29-MAY-90
FE	0.97	MG/L	EPA 200.7	29-MAY-90
HG	<0.4	UG/L	EPA 245.1	12-JUN-90
K	12	MG/L	EPA 200.7	30-MAY-90
MG	28	MG/L	EPA 200.7	30-MAY-90
MN	0.07	MG/L	EPA 200.7	29-MAY-90
NA	24	MG/L	EPA 200.7	30-MAY-90
NI	<0.04	MG/L	EPA 200.7	29-MAY-90

Sample Number: 87607-003 continued

Analysis	Result	Units	Method	Analyzed
PB	<5.0	UG/L	SW846 7421	29-MAY-90
SB	<50	UG/L	EPA 204.2	19-JUN-90
SE	<5.0	UG/L	EPA 270.2	06-JUN-90
TL	<10	UG/L	EPA 279.2	05-JUN-90
V	<0.05	MG/L	EPA 200.7	30-MAY-90
ZN	0.08	MG/L	EPA 200.7	29-MAY-90

Remarks:

VOLATILE ORGANICS ANALYSIS DATA SHEET

ent Name: (T) Dover
ject Name:
mple Location: MW-2
rix: waste
thod: EPA 624

Lab Number: 87607-003
Date Collected: 5/23/90
Date Received: 5/23/90
Date Analyzed: 6/6/90
Report Date: 6/27/90

NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
-87-3	Chloromethane	10		U
83-9	Bromomethane	10		U
01-4	Vinyl chloride	10		U
-00-3	Chloroethane	10		U
09-2	Methylene chloride	5.0		U
69-4	Trichlorofluoromethane	5.0		U
-35-4	1,1-Dichloroethene	5.0		U
-34-3	1,1-Dichloroethane	5.0		U
-59-0	trans-1,2-Dichloroethene	5.0		U
66-3	Chloroform	5.0		U
7-02-2	1,2-Dichloroethane	5.0		U
-55-6	1,1,1-Trichloroethane	5.0		U
-23-5	Carbon tetrachloride	5.0		U
-27-4	Bromodichloromethane	5.0		U
-87-5	1,2-Dichloropropane	5.0		U
061-01-5	cis-1,3-Dichloropropene	5.0		U
-01-6	Trichloroethene	5.0		U
-43-2	Benzene	5.0		U
4-48-1	Dibromochloromethane	5.0		U
061-02-6	trans-1,3-Dichloropropene	5.0		U
-00-5	1,1,2-Trichloroethane	5.0		U
0-75-8	2-Chloroethylvinyl ether	5.0		U
-25-2	Bromoform	5.0		U
-34-5	1,1,2,2-Tetrachloroethane	5.0		U
7-18-4	Tetrachloroethene	5.0		U
8-88-3	Toluene	5.0		U
8-90-7	Chlorobenzene	5.0		U
0-41-4	Ethylbenzene	5.0		U
1-73-1	1,3-Dichlorobenzene	5.0		U
-50-1	1,2-Dichlorobenzene	5.0		U
6-46-7	1,4-Dichlorobenzene	5.0		U

Inorganics Analysis Data Sheet

Client Name: TOWN OF DOVER

Sample Number: 87607-004

Project Name: STANDARD

Date Collected: 23-MAY-90

Matrix: 2 GW/WW

Date Received: 23-MAY-90

Sample Location: MW-3

Comments:

Analysis	Result	Units	Method	Analyzed
AG	<0.01	MG/L	EPA 200.7	29-MAY-90
AL	0.47	MG/L	EPA 200.7	29-MAY-90
AS	<5.0	UG/L	EPA 206.2	29-MAY-90
BA	<0.05	MG/L	EPA 200.7	30-MAY-90
BE	<0.005	MG/L	EPA 200.7	29-MAY-90
CA	43	MG/L	EPA 200.7	30-MAY-90
CD	0.005	MG/L	EPA 200.7	29-MAY-90
CN	<0.005	MG/L	EPA 335.2	30-MAY-90
CO	<0.05	MG/L	EPA 200.7	30-MAY-90
CR	<0.01	MG/L	EPA 200.7	29-MAY-90
CU	<0.01	MG/L	EPA 200.7	29-MAY-90
FE	0.15	MG/L	EPA 200.7	29-MAY-90
HG	<0.4	UG/L	EPA 245.1	12-JUN-90
K	5.6	MG/L	EPA 200.7	30-MAY-90
MG	18	MG/L	EPA 200.7	30-MAY-90
MN	0.02	MG/L	EPA 200.7	29-MAY-90
NA	1.8	MG/L	EPA 200.7	30-MAY-90

Sample Number: 87607-004 continued

Analysis	Result	Units	Method	Analyzed
NI	<0.04	MG/L	EPA 200.7	29-MAY-90
PB	<5.0	UG/L	SW846 7421	29-MAY-90
SB	<50	UG/L	EPA 204.2	01-JUN-90
SE	<5.0	UG/L	EPA 270.2	06-JUN-90
TL	<10	UG/L	EPA 279.2	05-JUN-90
V	<0.05	MG/L	EPA 200.7	30-MAY-90
ZN	0.06	MG/L	EPA 200.7	29-MAY-90

Remarks:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover
Project Name:
Sample Location: MW-3
Matrix: waste
Method: SW846-8240

Lab Number: 87607-004
Date Collected: 5/23/90
Date Received: 5/23/90
Date Analyzed: 6/6/90
Report Date: 7/26/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
.4-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
5-01-4	Vinyl chloride	10		U
5-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
5-15-0	Carbon disulfide	5.0		U
,5-35-4	1,1-Dichloroethene	5.0		U
75-34-3	1,1-Dichloroethane	5.0		U
40-59-0	trans-1,2-Dichloroethene	5.0		U
7-66-3	Chloroform	5.0		U
107-02-2	1,2-Dichloroethane	5.0		U
78-93-3	2-Butanone	10		U
1-55-6	1,1,1-Trichloroethane	5.0		U
56-23-5	Carbon tetrachloride	5.0		U
108-05-4	Vinyl acetate	10		U
'5-27-4	Bromodichloromethane	5.0		U
.8-87-5	1,2-Dichloropropane	5.0		U
10061-01-5	cis-1,3-Dichloropropene	5.0		U
'9-01-6	Trichloroethene	5.0		U
'1-43-2	Benzene	5.0		U
124-48-1	Dibromochloromethane	5.0		U
10061-02-6	trans-1,3-Dichloropropene	5.0		U
'9-00-5	1,1,2-Trichloroethane	5.0		U
75-25-2	Bromoform	5.0		U
108-10-1	4-Methyl--2-pentanone	10		U
591-78-6	2-Hexanone	10		U
'9-34-5	1,1,2,2-Tetrachloroethane	5.0		U
127-18-4	Tetrachloroethene	5.0		U
'08-88-3	Toluene	5.0		U
.08-90-7	Chlorobenzene	5.0		U
100-41-4	Ethylbenzene	5.0		U
100-42-5	Styrene	5.0		U
.33-02-7	m-Xylene	5.0		U
.33-02-7	o,p-Xylene	5.0		U

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: MW-3

Matrix: waste

Method: EPA 624

Lab Number: 87607-004

Date Collected: 5/23/90

Date Received: 5/23/90

Date Analyzed: 6/6/90

Report Date: 6/27/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	5.0		U
75-69-4	Trichlorofluoromethane	5.0		U
75-35-4	1,1-Dichloroethene	5.0		U
75-34-3	1,1-Dichloroethane	5.0		U
540-59-0	trans-1,2-Dichloroethene	5.0		U
67-66-3	Chloroform	5.0		U
107-02-2	1,2-Dichloroethane	5.0		U
71-55-6	1,1,1-Trichloroethane	5.0		U
56-23-5	Carbon tetrachloride	5.0		U
75-27-4	Bromodichloromethane	5.0		U
78-87-5	1,2-Dichloropropane	5.0		U
10061-01-5	cis-1,3-Dichloropropene	5.0		U
79-01-6	Trichloroethene	5.0		U
71-43-2	Benzene	5.0		U
124-48-1	Dibromochloromethane	5.0		U
10061-02-6	trans-1,3-Dichloropropene	5.0		U
79-00-5	1,1,2-Trichloroethane	5.0		U
100-75-8	2-Chloroethylvinyl ether	5.0		U
75-25-2	Bromoform	5.0		U
79-34-5	1,1,2,2-Tetrachloroethane	5.0		U
127-18-4	Tetrachloroethene	5.0		U
108-88-3	Toluene	5.0		U
108-90-7	Chlorobenzene	5.0		U
100-41-4	Ethylbenzene	5.0		U
541-73-1	1,3-Dichlorobenzene	5.0		U
95-50-1	1,2-Dichlorobenzene	5.0		U
106-46-7	1,4-Dichlorobenzene	5.0		U

315 Fullerton Avenue
Newburgh, NY 12550

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: MW-3

Matrix: Waste

Method: EPA 625

Lab Number: 87607-004

Date Collected: 5/23/90

Date Received: 5/23/90

Date Extracted: 5/25/90

Date Analyzed: 6/9/90

Report Date: 6/19/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier	CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
[illegible]P-95-2	Phenol	10		U	121-14-2	2,4-Dinitrotoluene	10		U
1[illegible]14-4	bis(-2-Chloroethyl)Ether	10		U	84-66-2	Diethylphthalate	10		U
5-[illegible]7-8	2-Chlorophenol	10		U	7005-72-3	4-Chlorophenyl-phenylether	10		U
41-73-1	1,3-Dichlorobenzene	10		U	86-73-7	Fluorene	10		U
0[illegible]46-7	1,4-Dichlorobenzene	10		U	534-52-1	4,6-Dinitro-2-methylphenol	50		U
5[illegible]0-1	1,2-Dichlorobenzene	10		U	86-30-6	N-Nitrosodiphenylamine ¤	10		U
9638-32-9	bis(2-chloroisopropyl)ether	10		U	101-55-3	4-Bromophenyl-phenylether	50		U
[illegible]2[illegible]64-7	N-Nitroso-Di-n-propylamine	10		U	118-74-1	Hexachlorobenzene	10		U
[illegible]2-1	Hexachloroethane	10		U	87-86-5	Pentachlorophenol	50		U
[illegible]8-95-3	Nitrobenzene	10		U	85-01-8	Phenanthrene	10		U
7R-59-1	Isophorone	10		U	120-12-7	Anthracene	10		U
31[illegible]5-5	2-Nitrophenol	10		U	84-74-2	Di-n-butylphthalate	10		U
1[illegible]-67-9	2,4-Dimethylphenol	10		U	206-44-0	Fluoranthene	10		U
111-91-1	bis(-2-Chloroethoxy)methane	10		U	129-00-0	Pyrene	10		U
1[illegible]-83-2	2,4-Dichlorophenol	10		U	92-87-5	Benzidine	20		U
1[illegible]-82-1	1,2,4-Trichlorobenzene	10		U	85-68-7	Butylbenzylphthalate	10		U
91-20-3	Naphthalene	10		U	91-94-1	3,3'-Dichlorobenzidine	10		U
87-68-3	Hexachlorobutadiene	10		U	56-55-3	Benzo(a)anthracene	10		U
5[illegible]50-7	4-Chloro-3-methylphenol	10		U	218-01-9	Chrysene	10		U
7[illegible]-47-4	Hexachlorocyclopentadiene	10		U	117-81-7	bis(2-Ethylhexyl)phthalate	10		U
88-06-2	2,4,6-Trichlorophenol	10		U	117-84-0	Di-n-octylphthalate	10		U
9[illegible]58-7	2-Chloronaphthalene	10		U	205-99-2	Benzo(b)fluoranthene	10		U
1[illegible]-11-3	Dimethylphthalate	10		U	207-08-9	Benzo(k)fluoranthene	10		U
208-96-8	Acenaphthylene	10		U	50-32-8	Benzo(a)pyrene	10		U
[illegible]-20-2	2,6-Dinitrotoluene	10		U	193-39-5	Indeno(1,2,3-cd)pyrene	10		U
1[illegible]-32-9	Acenaphthene	10		U	53-70-3	Dibenzo(a,h)anthracene	10		U
51-28-5	2,4-Dinitrophenol	50		U	191-24-2	Benzo(g,h,i)perylene	10		U
100-02-7	4-Nitrophenol	50		U	62-75-9	N-Nitrosodimethylamine	10		U

¤ Cannot be separated from diphenylamine

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Name: (T) Dover

Name:

Location: MW-3

waste

EPA 608

Lab Number: 87607-004

Date Collected: 5/23/90

Date Received: 5/23/90

Date Extracted: 5/25/90

Date Analyzed: 6/1/90

Report Date: 6/15/90

	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
	alpha-BHC	0.05		U
,	beta-BHC	0.05		U
-8	delta-BHC	0.05		U
	gamma-BHC(Lindane)	0.05		U
3	Heptachlor	0.05		U
-2	Aldrin	0.05		U
7 3	Heptachlor epoxide	0.05		U
-	Endosulfan I	0.05		U
1	Dieldrin	0.10		U
9	4,4'-DDE	0.10		U
	Endrin	0.10		U
-9	Endosulfan II	0.10		U
3	4,4'-DDD	0.10		U
7 8	Endosulfan sulfate	0.10		U
	4,4'-DDT	0.10		U
3-4	Endrin aldehyde	0.10		U
9	Chlordane	0.50		U
2	Toxaphene	1.0		U
-2	Arochlor-1016	0.50		U
28-2	Arochlor-1221	0.50		U
-5	Arochlor-1232	0.50		U
-9	Arochlor-1242	0.50		U
29-6	Arochlor-1248	0.50		U
-1	Arochlor-1254	0.50		U
-5	Arochlor-1260	0.50		U

318 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

Inorganics Analysis Data Sheet

Client Name: TOWN OF DOVER

Sample Number: 87607-005

Project Name: STANDARD

Date Collected: 23-MAY-90

Matrix: 2 GW/WW

Date Received: 23-MAY-90

Sample Location: MW-4

Comments:

Analysis	Result	Units	Method	Analyzed
AG	<0.01	MG/L	EPA 200.7	29-MAY-90
AL	0.68	MG/L	EPA 200.7	29-MAY-90
AS	<5.0	UG/L	EPA 206.2	29-MAY-90
BA	<0.05	MG/L	EPA 200.7	30-MAY-90
BE	<0.005	MG/L	EPA 200.7	29-MAY-90
CA	47	MG/L	EPA 200.7	30-MAY-90
CD	<0.005	MG/L	EPA 200.7	29-MAY-90
CN	<0.005	MG/L	EPA 335.2	30-MAY-90
CO	<0.05	MG/L	EPA 200.7	30-MAY-90
CR	<0.01	MG/L	EPA 200.7	29-MAY-90
CU	<0.01	MG/L	EPA 200.7	29-MAY-90
FE	0.57	MG/L	EPA 200.7	29-MAY-90
HG	<0.4	UG/L	EPA 245.1	12-JUN-90
K	4.0	MG/L	EPA 200.7	30-MAY-90
MG	21	MG/L	EPA 200.7	30-MAY-90
MN	0.13	MG/L	EPA 200.7	29-MAY-90
NA	2.8	MG/L	EPA 200.7	30-MAY-90

313 [illegible]
[illegible], NY 12550
(914) [illegible]

Sample Number: 87607-005 continued

Analysis	Result	Units	Method	Analyzed
NI	<0.04	MG/L	EPA 200.7	29-MAY-90
PB	<5.0	UG/L	EPA 239.2	30-MAY-90
SB	<50	UG/L	EPA 204.2	01-JUN-90
SE	<5.0	UG/L	EPA 270.2	06-JUN-90
TL	<10	UG/L	EPA 279.2	05-JUN-90
V	<0.05	MG/L	EPA 200.7	30-MAY-90
ZN	0.02	MG/L	EPA 200.7	29-MAY-90

Remarks:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover
Project Name:
Sample Location: MW-4
Matrix: waste
Method: SW846-8240

Lab Number: 87607-005
Date Collected: 5/23/90
Date Received: 5/23/90
Date Analyzed: 6/6/90
Report Date: 7/26/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
4-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
5-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
5-15-0	Carbon disulfide	5.0		U
5-35-4	1,1-Dichloroethene	5.0		U
75-34-3	1,1-Dichloroethane	5.0		U
40-59-0	trans-1,2-Dichloroethene	5.0		U
7-66-3	Chloroform	5.0		U
107-02-2	1,2-Dichloroethane	5.0		U
78-93-3	2-Butanone	10		U
1-55-6	1,1,1-Trichloroethane	5.0		U
6-23-5	Carbon tetrachloride	5.0		U
108-05-4	Vinyl acetate	10		U
5-27-4	Bromodichloromethane	5.0		U
8-87-5	1,2-Dichloropropane	5.0		U
10061-01-5	cis-1,3-Dichloropropene	5.0		U
79-01-6	Trichloroethene	5.0		U
1-43-2	Benzene	5.0		U
124-48-1	Dibromochloromethane	5.0		U
10061-02-6	trans-1,3-Dichloropropene	5.0		U
9-00-5	1,1,2-Trichloroethane	5.0		U
75-25-2	Bromoform	5.0		U
108-10-1	4-Methyl--2-pentanone	10		U
591-78-6	2-Hexanone	10		U
9-34-5	1,1,2,2-Tetrachloroethane	5.0		U
127-18-4	Tetrachloroethene	5.0		U
108-88-3	Toluene	5.0		U
108-90-7	Chlorobenzene	5.0		U
100-41-4	Ethylbenzene	5.0		U
100-42-5	Styrene	5.0		U
133-02-7	m-Xylene	5.0		U
133-02-7	o,p-Xylene	5.0		U

318 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: MW-4

Matrix: waste

Method: EPA 624

Lab Number: 87607-005

Date Collected: 5/23/90

Date Received: 5/23/90

Date Analyzed: 6/6/90

Report Date: 6/27/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	5.0		U
75-69-4	Trichlorofluoromethane	5.0		U
75-35-4	1,1-Dichloroethene	5.0		U
75-34-3	1,1-Dichloroethane	5.0		U
540-59-0	trans-1,2-Dichloroethene	5.0		U
67-66-3	Chloroform	5.0		U
107-02-2	1,2-Dichloroethane	5.0		U
71-55-6	1,1,1-Trichloroethane	5.0		U
56-23-5	Carbon tetrachloride	5.0		U
75-27-4	Bromodichloromethane	5.0		U
78-87-5	1,2-Dichloropropane	5.0		U
10061-01-5	cis-1,3-Dichloropropene	5.0		U
79-01-6	Trichloroethene	5.0		U
71-43-2	Benzene	5.0		U
124-48-1	Dibromochloromethane	5.0		U
10061-02-6	trans-1,3-Dichloropropene	5.0		U
79-00-5	1,1,2-Trichloroethane	5.0		U
100-75-8	2-Chloroethylvinyl ether	5.0		U
75-25-2	Bromoform	5.0		U
79-34-5	1,1,2,2-Tetrachloroethane	5.0		U
127-18-4	Tetrachloroethene	5.0		U
108-88-3	Toluene	5.0		U
108-90-7	Chlorobenzene	5.0		U
100-41-4	Ethylbenzene	5.0		U
541-73-1	1,3-Dichlorobenzene	5.0		U
95-50-1	1,2-Dichlorobenzene	5.0		U
106-46-7	1,4-Dichlorobenzene	5.0		U

315 Fullerton Avenue
Newburgh, NY 12550

REFERENCE # 12

111 OF 125

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: MW-4

Matrix: waste

Method: EPA 625

Lab Number: 87607-005

Date Collected: 5/23/90

Date Received: 5/23/90

Date Extracted: 5/25/90

Date Analyzed: 6/9/90

Report Date: 6/19/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier	CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
-?	Phenol	10		U	121-14-2	2,4-Dinitrotoluene	10		U
	bis(-2-Chloroethyl)Ether	10		U	84-66-2	Diethylphthalate	10		U
	2-Chlorophenol	10		U	7005-72-3	4-Chlorophenyl-phenylether	10		U
-1	1,3-Dichlorobenzene	10		U	86-73-7	Fluorene	10		U
	1,4-Dichlorobenzene	10		U	534-52-1	4,6-Dinitro-2-methylphenol	50		U
	1,2-Dichlorobenzene	10		U	86-30-6	N-Nitrosodiphenylamine *	10		U
-32-9	bis(2-chloroisopropyl)ether	10		U	101-55-3	4-Bromophenyl-phenylether	50		U
	N-Nitroso-Di-n-propylamine	10		U	118-74-1	Hexachlorobenzene	10		U
	Hexachloroethane	10		U	87-86-5	Pentachlorophenol	50		U
3	Nitrobenzene	10		U	85-01-8	Phenanthrene	10		U
-1	Isophorone	10		U	120-12-7	Anthracene	10		U
	2-Nitrophenol	10		U	84-74-2	Di-n-butylphthalate	10		U
	2,4-Dimethylphenol	10		U	206-44-0	Fluoranthene	10		U
1-1	bis(-2-Chloroethoxy)methane	10		U	129-00-0	Pyrene	10		U
	2,4-Dichlorophenol	10		U	92-87-5	Benzidine	20		U
	1,2,4-Trichlorobenzene	10		U	85-68-7	Butylbenzylphthalate	10		U
-3	Naphthalene	10		U	91-94-1	3,3'-Dichlorobenzidine	10		U
-3	Hexachlorobutadiene	10		U	56-55-3	Benzo(a)anthracene	10		U
	4-Chloro-3-methylphenol	10		U	218-01-9	Chrysene	10		U
-4	Hexachlorocyclopentadiene	10		U	117-81-7	bis(2-Ethylhexyl)phthalate	10		U
-2	2,4,6-Trichlorophenol	10		U	117-84-0	Di-n-octylphthalate	10		U
	2-Chloronaphthalene	10		U	205-99-2	Benzo(b)fluoranthene	10		U
3	Dimethylphthalate	10		U	207-08-9	Benzo(k)fluoranthene	10		U
6-8	Acenaphthylene	10		U	50-32-8	Benzo(a)pyrene	10		U
2	2,6-Dinitrotoluene	10		U	193-39-5	Indeno(1,2,3-cd)pyrene	10		U
2	Acenaphthene	10		U	53-70-3	Dibenzo(a,h)anthracene	10		U
-5	2,4-Dinitrophenol	50		U	191-24-2	Benzo(g,h,i)perylene	10		U
02-7	4-Nitrophenol	50		U	62-75-9	N-Nitrosodimethylamine	10		U

* Cannot be separated from diphenylamine

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover
Project Name:
Sample Location: MW-4
Matrix: waste
Method: EPA 608

Lab Number: 87607-005
Date Collected: 5/23/90
Date Received: 5/23/90
Date Extracted: 5/25/90
Date Analyzed: 6/1/90
Report Date: 6/15/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
319-84-6	alpha-BHC	0.05		U
319-85-7	beta-BHC	0.05		U
319-86-8	delta-BHC	0.05		U
58-89-9	gamma-BHC(Lindane)	0.05		U
76-44-8	Heptachlor	0.05		U
309-00-2	Aldrin	0.05		U
1024-57-3	Heptachlor epoxide	0.05		U
959-98-8	Endosulfan I	0.05		U
60-57-1	Dieldrin	0.10		U
72-55-9	4,4'-DDE	0.10		U
72-20-8	Endrin	0.10		U
33213-65-9	Endosulfan II	0.10		U
72-54-8	4,4'-DDD	0.10		U
1031-07-8	Endosulfan sulfate	0.10		U
50-29-3	4,4'-DDT	0.10		U
7421-93-4	Endrin aldehyde	0.10		U
57-74-9	Chlordane	0.50		U
8001-35-2	Toxaphene	1.0		U
12674-11-2	Arochlor-1016	0.50		U
11104-28-2	Arochlor-1221	0.50		U
11141-16-5	Arochlor-1232	0.50		U
53469-21-9	Arochlor-1242	0.50		U
12672-29-6	Arochlor-1248	0.50		U
11097-69-1	Arochlor-1254	0.50		U
11096-82-5	Arochlor-1260	0.50		U

Inorganics Analysis Data Sheet

Client Name: TOWN OF DOVER

Sample Number: 87607-006

Date Collected: 23-MAY-90

Date Received: 23-MAY-90

Sample Location: MW-5

Project Name: STANDARD

Matrix: 2 GW/WW

Comments:

Analysis	Result	Units	Method	Analyzed
AG	<0.01	MG/L	EPA 200.7	29-MAY-90
AL	1.1	MG/L	EPA 200.7	29-MAY-90
AS	<5.0	UG/L	EPA 206.2	29-MAY-90
BA	<0.05	MG/L	EPA 200.7	30-MAY-90
BE	<0.005	MG/L	EPA 200.7	29-MAY-90
CA	53	MG/L	EPA 200.7	30-MAY-90
CD	<0.005	MG/L	EPA 200.7	29-MAY-90
CN	<0.005	MG/L	EPA 335.2	30-MAY-90
CO	<0.05	MG/L	EPA 200.7	30-MAY-90
CR	<0.01	MG/L	EPA 200.7	29-MAY-90
CU	<0.01	MG/L	EPA 200.7	29-MAY-90
FE	0.88	MG/L	EPA 200.7	29-MAY-90
HG	<0.4	UG/L	EPA 245.1	12-JUN-90
K	3.3	MG/L	EPA 200.7	30-MAY-90
MG	26	MG/L	EPA 200.7	30-MAY-90
MN	0.06	MG/L	EPA 200.7	29-MAY-90
NA	1.9	MG/L	EPA 200.7	30-MAY-90

Sample Number: 87607-006 continued

Analysis	Result	Units	Method	Analyzed
NI	<0.04	MG/L	EPA 200.7	29-MAY-90
PB	<5.0	UG/L	EPA 239.2	30-MAY-90
SB	<50	UG/L	EPA 204.2	01-JUN-90
SE	<5.0	UG/L	EPA 270.2	06-JUN-90
TL	<10	UG/L	EPA 279.2	05-JUN-90
V	<0.05	MG/L	EPA 200.7	30-MAY-90
ZN	0.03	MG/L	EPA 200.7	29-MAY-90

Remarks:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: MW-5

Matrix: waste

Method: SW846-8240

Lab Number: 87607-006

Date Collected: 5/23/90

Date Received: 5/23/90

Date Analyzed: 6/6/90

Report Date: 7/26/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10	2.6	J
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	5.0		U
75-35-4	1,1-Dichloroethene	5.0		U
75-34-3	1,1-Dichloroethane	5.0		U
540-59-0	trans-1,2-Dichloroethene	5.0		U
67-66-3	Chloroform	5.0		U
107-02-2	1,2-Dichloroethane	5.0		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	5.0		U
56-23-5	Carbon tetrachloride	5.0		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	5.0		U
78-87-5	1,2-Dichloropropane	5.0		U
10061-01-5	cis-1,3-Dichloropropene	5.0		U
79-01-6	Trichloroethene	5.0		U
71-43-2	Benzene	5.0		U
124-48-1	Dibromochloromethane	5.0		U
10061-02-6	trans-1,3-Dichloropropene	5.0		U
79-00-5	1,1,2-Trichloroethane	5.0		U
75-25-2	Bromoform	5.0		U
108-10-1	4-Methyl--2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	5.0		U
127-18-4	Tetrachloroethene	5.0		U
108-88-3	Toluene	5.0		U
108-90-7	Chlorobenzene	5.0		U
100-41-4	Ethylbenzene	5.0		U
100-42-5	Styrene	5.0		U
133-02-7	m-Xylene	5.0		U
133-02-7	o,p-Xylene	5.0		U

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: MW-5

Matrix: waste

Method: EPA 624

Lab Number: 87607-006

Date Collected: 5/23/90

Date Received: 5/23/90

Date Analyzed: 6/6/90

Report Date: 6/27/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	5.0	2.6	J
75-69-4	Trichlorofluoromethane	5.0		U
75-35-4	1,1-Dichloroethene	5.0		U
75-34-3	1,1-Dichloroethane	5.0		U
540-59-0	trans-1,2-Dichloroethene	5.0		U
67-66-3	Chloroform	5.0		U
107-02-2	1,2-Dichloroethane	5.0		U
71-55-6	1,1,1-Trichloroethane	5.0		U
56-23-5	Carbon tetrachloride	5.0		U
75-27-4	Bromodichloromethane	5.0		U
78-87-5	1,2-Dichloropropane	5.0		U
10061-01-5	cis-1,3-Dichloropropene	5.0		U
79-01-6	Trichloroethene	5.0		U
71-43-2	Benzene	5.0		U
124-48-1	Dibromochloromethane	5.0		U
10061-02-6	trans-1,3-Dichloropropene	5.0		U
79-00-5	1,1,2-Trichloroethane	5.0		U
100-75-8	2-Chloroethylvinyl ether	5.0		U
75-25-2	Bromoform	5.0		U
79-34-5	1,1,2,2-Tetrachloroethane	5.0		U
127-18-4	Tetrachloroethene	5.0		U
108-88-3	Toluene	5.0		U
108-90-7	Chlorobenzene	5.0		U
100-41-4	Ethylbenzene	5.0		U
541-73-1	1,3-Dichlorobenzene	5.0		U
95-50-1	1,2-Dichlorobenzene	5.0		U
106-46-7	1,4-Dichlorobenzene	5.0		U

315 Fullerton Avenue
Newburgh, NY 12550

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: MW-5

Matrix: waste

Method: EPA 625

Lab Number: 87607-006

Date Collected: 5/23/90

Date Received: 5/23/90

Date Extracted: 5/25/90

Date Analyzed: 6/9/90

Report Date: 6/19/90

NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier	CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
-95-2	Phenol	10		U	121-14-2	2,4-Dinitrotoluene	10		U
-44-4	bis(-2-Chloroethyl)Ether	10		U	84-66-2	Diethylphthalate	10		U
5-57-8	2-Chlorophenol	10		U	7005-72-3	4-Chlorophenyl-phenylether	10		U
-73-1	1,3-Dichlorobenzene	10		U	86-73-7	Fluorene	10		U
-46-7	1,4-Dichlorobenzene	10		U	534-52-1	4,6-Dinitro-2-methylphenol	50		U
-50-1	1,2-Dichlorobenzene	10		U	86-30-6	N-Nitrosodiphenylamine *	10		U
9638-32-9	bis(2-chloroisopropyl)ether	10		U	101-55-3	4-Bromophenyl-phenylether	50		U
-64-7	N-Nitroso-Di-n-propylamine	10		U	118-74-1	Hexachlorobenzene	10		U
72-1	Hexachloroethane	10		U	87-86-5	Pentachlorophenol	50		U
8-95-3	Nitrobenzene	10		U	85-01-8	Phenanthrene	10		U
59-1	Isophorone	10		U	120-12-7	Anthracene	10		U
75-5	2-Nitrophenol	10		U	84-74-2	Di-n-butylphthalate	10		U
-67-9	2,4-Dimethylphenol	10		U	206-44-0	Fluoranthene	10		U
11-91-1	bis(-2-Chloroethoxy)methane	10		U	129-00-0	Pyrene	10		U
-83-2	2,4-Dichlorophenol	10		U	92-87-5	Benzidine	20		U
-82-1	1,2,4-Trichlorobenzene	10		U	85-68-7	Butylbenzylphthalate	10		U
91-20-3	Naphthalene	10		U	91-94-1	3,3'-Dichlorobenzidine	10		U
-68-3	Hexachlorobutadiene	10		U	56-55-3	Benzo(a)anthracene	10		U
-50-7	4-Chloro-3-methylphenol	10		U	218-01-9	Chrysene	10		U
77-47-4	Hexachlorocyclopentadiene	10		U	117-81-7	bis(2-Ethylhexyl)phthalate	10		U
-06-2	2,4,6-Trichlorophenol	10		U	117-84-0	Di-n-octylphthalate	10		U
-58-7	2-Chloronaphthalene	10		U	205-99-2	Benzo(b)fluoranthene	10		U
-11-3	Dimethylphthalate	10		U	207-08-9	Benzo(k)fluoranthene	10		U
208-96-8	Acenaphthylene	10		U	50-32-8	Benzo(a)pyrene	10		U
6-20-2	2,6-Dinitrotoluene	10		U	193-39-5	Indeno(1,2,3-cd)pyrene	10		U
-32-9	Acenaphthene	10		U	53-70-3	Dibenzo(a,h)anthracene	10		U
51-28-5	2,4-Dinitrophenol	50		U	191-24-2	Benzo(g,h,i)perylene	10		U
-0-02-7	4-Nitrophenol	50		U	62-75-9	N-Nitrosodimethylamine	10		U

* Cannot be separated from diphenylamine

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: MW-5

Matrix: waste

Method: EPA 608

Lab Number: 87607-006

Date Collected: 5/23/90

Date Received: 5/23/90

Date Extracted: 5/25/90

Date Analyzed: 6/1/90

Report Date: 6/15/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
319-84-6	alpha-BHC	0.05		U
319-85-7	beta-BHC	0.05		U
319-86-8	delta-BHC	0.05		U
58-89-9	gamma-BHC(Lindane)	0.05		U
76-44-8	Heptachlor	0.05		U
309-00-2	Aldrin	0.05		U
1024-57-3	Heptachlor epoxide	0.05		U
959-98-8	Endosulfan I	0.05		U
60-57-1	Dieldrin	0.10		U
72-55-9	4,4'-DDE	0.10		U
72-20-8	Endrin	0.10		U
33213-65-9	Endosulfan II	0.10		U
72-54-8	4,4'-DDD	0.10		U
1031-07-8	Endosulfan sulfate	0.10		U
50-29-3	4,4'-DDT	0.10		U
7421-93-4	Endrin aldehyde	0.10		U
57-74-9	Chlordane	0.50		U
8001-35-2	Toxaphene	1.0		U
12674-11-2	Arochlor-1016	0.50		U
11104-28-2	Arochlor-1221	0.50		U
11141-16-5	Arochlor-1232	0.50		U
53469-21-9	Arochlor-1242	0.50		U
12672-29-6	Arochlor-1248	0.50		U
11097-69-1	Arochlor-1254	0.50		U
11096-82-5	Arochlor-1260	0.50		U

Inorganics Analysis Data Sheet

Client Name: TOWN OF DOVER

Sample Number: 87607-007

Project Name: STANDARD

Date Collected: 23-MAY-90

Matrix: 2 GW/WW

Date Received: 23-MAY-90

Sample Location: FIELD BLANK

Comments:

Analysis	Result	Units	Method	Analyzed
AG	<0.01	MG/L	EPA 200.7	29-MAY-90
AL	<0.05	MG/L	EPA 200.7	29-MAY-90
AS	<5.0	UG/L	EPA 206.2	29-MAY-90
BA	<0.05	MG/L	EPA 200.7	30-MAY-90
BE	<0.005	MG/L	EPA 200.7	29-MAY-90
CA	<0.5	MG/L	EPA 200.7	30-MAY-90
CD	<0.005	MG/L	EPA 200.7	29-MAY-90
CN	<0.005	MG/L	EPA 335.2	30-MAY-90
CO	<0.05	MG/L	EPA 200.7	30-MAY-90
CR	<0.01	MG/L	EPA 200.7	29-MAY-90
CU	<0.01	MG/L	EPA 200.7	29-MAY-90
FE	<0.03	MG/L	EPA 200.7	29-MAY-90
HG	<0.4	UG/L	EPA 245.1	12-JUN-90
K	<0.5	MG/L	EPA 200.7	30-MAY-90
MG	<0.5	MG/L	EPA 200.7	30-MAY-90
MN	<0.01	MG/L	EPA 200.7	29-MAY-90
NA	<0.5	MG/L	EPA 200.7	30-MAY-90

318 Fullerton Avenue
Newburgh, NY 12550

Sample Number: 87607-007 continued

Analysis	Result	Units	Method	Analyzed
NI	<0.04	MG/L	EPA 200.7	29-MAY-90
PB	<5.0	UG/L	EPA 239.2	30-MAY-90
SB	<50	UG/L	EPA 204.2	01-JUN-90
SE	<5.0	UG/L	EPA 270.2	06-JUN-90
TL	<10	UG/L	EPA 279.2	05-JUN-90
V	<0.05	MG/L	EPA 200.7	30-MAY-90
ZN	<0.01	MG/L	EPA 200.7	29-MAY-90

Remarks:

VOLATILE ORGANICS ANALYSIS DATA SHEET

(T) Dover

Lab Number: 87607-007

Date Collected: 5/23/90

on: Field Blank

Date Received: 5/23/90

Date Analyzed: 6/6/90

e

Report Date: 7/26/90

-8240

MPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
loromethane	10		U
Bromomethane	10		U
Vinyl chloride	10		U
loroethane	10		U
ethylene chloride	10		U
Acetone	10		U
rbon disulfide	5.0		U
,1-Dichloroethene	5.0		U
1,1-Dichloroethane	5.0		U
ans-1,2-Dichloroethene	5.0		U
loroform	5.0		U
1,2-Dichloroethane	5.0		U
2-Butanone	10		U
,1,1-Trichloroethane	5.0		U
arbon tetrachloride	5.0		U
Vinyl acetate	10		U
romodichloromethane	5.0		U
,2-Dichloropropane	5.0		U
cis-1,3-Dichloropropene	5.0		U
Trichloroethene	5.0		U
enzene	5.0		U
ibromochloromethane	5.0		U
trans-1,3-Dichloropropene	5.0		U
,1,2-Trichloroethane	5.0		U
romoform	5.0		U
4-Methyl--2-pentanone	10		U
2-Hexanone	10		U
,1,2,2-Tetrachloroethane	5.0		U
Tetrachloroethene	5.0		U
Toluene	5.0		U
Chlorobenzene	5.0		U
Ethylbenzene	5.0		U
Styrene	5.0		U
m-Xylene	5.0		U
o,p-Xylene	5.0		U

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890
FAX (914) 562-0841

venue
12550
0841

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client Name: (T) Dover

Project Name:

Sample Location: Trip Blank

Matrix: waste

Method: EPA 624

Lab Number: 87607-008

Date Collected: 5/23/90

Date Received: 5/23/90

Date Analyzed: 6/6/90

Report Date: 6/27/90

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	5.0		U
75-69-4	Trichlorofluoromethane	5.0		U
75-35-4	1,1-Dichloroethene	5.0		U
75-34-3	1,1-Dichloroethane	5.0		U
540-59-0	trans-1,2-Dichloroethene	5.0		U
67-66-3	Chloroform	5.0		U
107-02-2	1,2-Dichloroethane	5.0		U
71-55-6	1,1,1-Trichloroethane	5.0		U
56-23-5	Carbon tetrachloride	5.0		U
75-27-4	Bromodichloromethane	5.0		U
78-87-5	1,2-Dichloropropane	5.0		U
10061-01-5	cis-1,3-Dichloropropene	5.0		U
79-01-6	Trichloroethene	5.0		U
71-43-2	Benzene	5.0		U
124-48-1	Dibromochloromethane	5.0		U
10061-02-6	trans-1,3-Dichloropropene	5.0		U
79-00-5	1,1,2-Trichloroethane	5.0		U
100-75-8	2-Chloroethylvinyl ether	5.0		U
75-25-2	Bromoform	5.0		U
79-34-5	1,1,2,2-Tetrachloroethane	5.0		U
127-18-4	Tetrachloroethene	5.0		U
108-88-3	Toluene	5.0		U
108-90-7	Chlorobenzene	5.0		U
100-41-4	Ethylbenzene	5.0		U
541-73-1	1,3-Dichlorobenzene	5.0		U
95-50-1	1,2-Dichlorobenzene	5.0		U
106-46-7	1,4-Dichlorobenzene	5.0		U

ORGANIC DATA REPORTING QUALIFIERS

VALUE - A value is reported if the result is greater than or equal to the detection limit.

U - Indicates that the compound was analyzed for but not detected. The value followed by the U (e.g. 10U) is the minimum detection limit for the sample based on necessary concentration or dilution action. This is not necessarily the instrument detection limit.

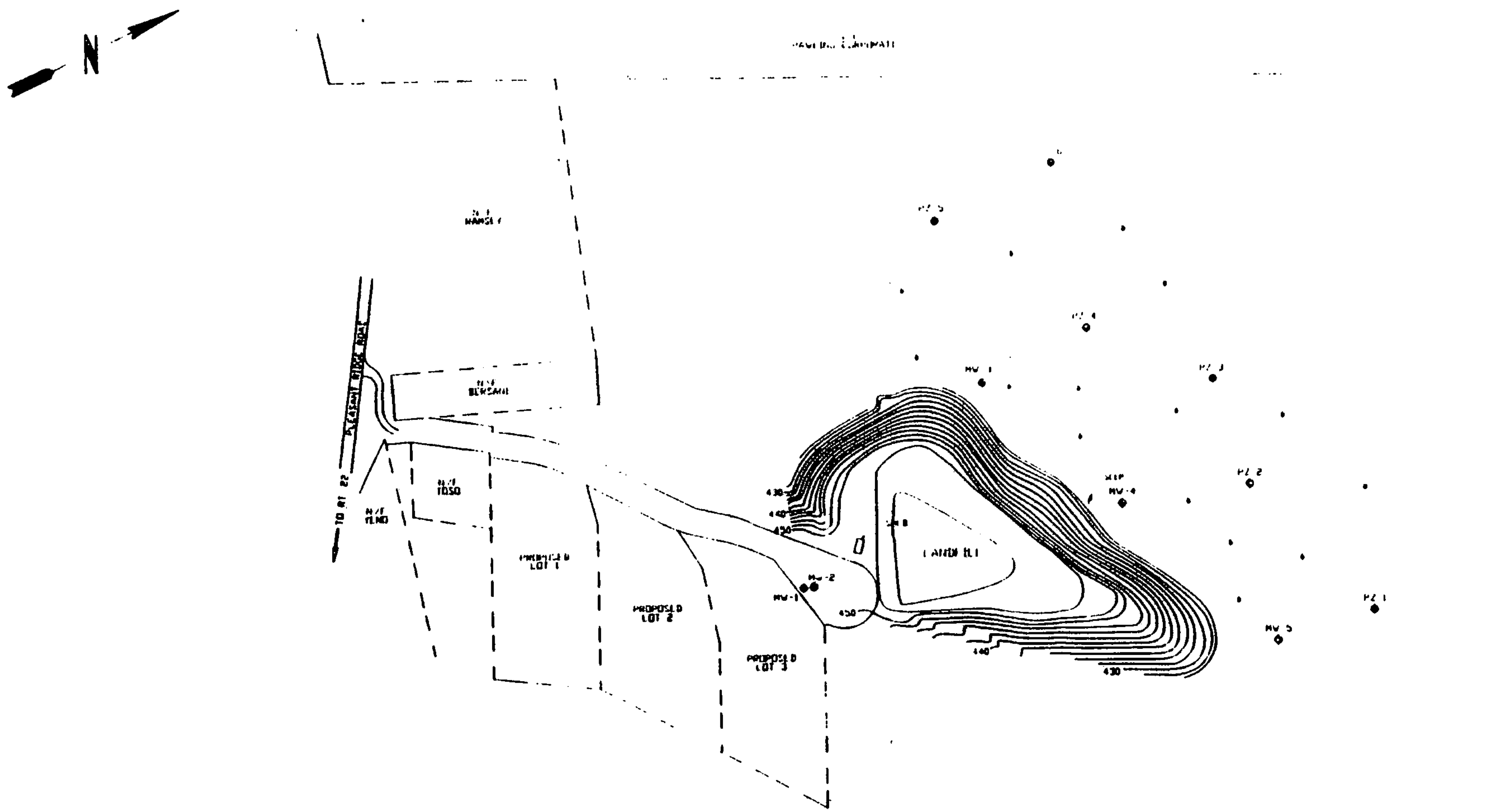
J - Indicates an estimated value. This qualifier is used when mass spectral data indicates the presence of a compound that meets the identification criteria and the result is < than the specified detection limit but > than zero.

B - This qualifier is used when the analyte is found in the blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

C - This qualifier applies to pesticide parameters where the identification has been confirmed by gas chromatography/mass spectrometry.

REFERENCE # 12

PAGE 124 OF 125



REFERENCE MAP:

GRADING FEATURES SHOWN BASED ON DRAWINGS TITLED "CLOSURE PLAN - TOWN OF DOVER, REFUSE DISPOSAL AREA, FINAL GRADING PLAN AND COVER REQUIREMENTS," PREPARED BY MORRIS & ANDROS, ENGINEERING CONSULTANTS, DECEMBER 1984.

WELL LOCATIONS AND PROPERTY BOUNDARIES SHOWN BASED ON DRAWINGS TITLED "TOWN OF DOVER" PREPARED BY JAMES K. DEVINE, LAND SURVEYOR, MAY 29, 1990

LEGEND

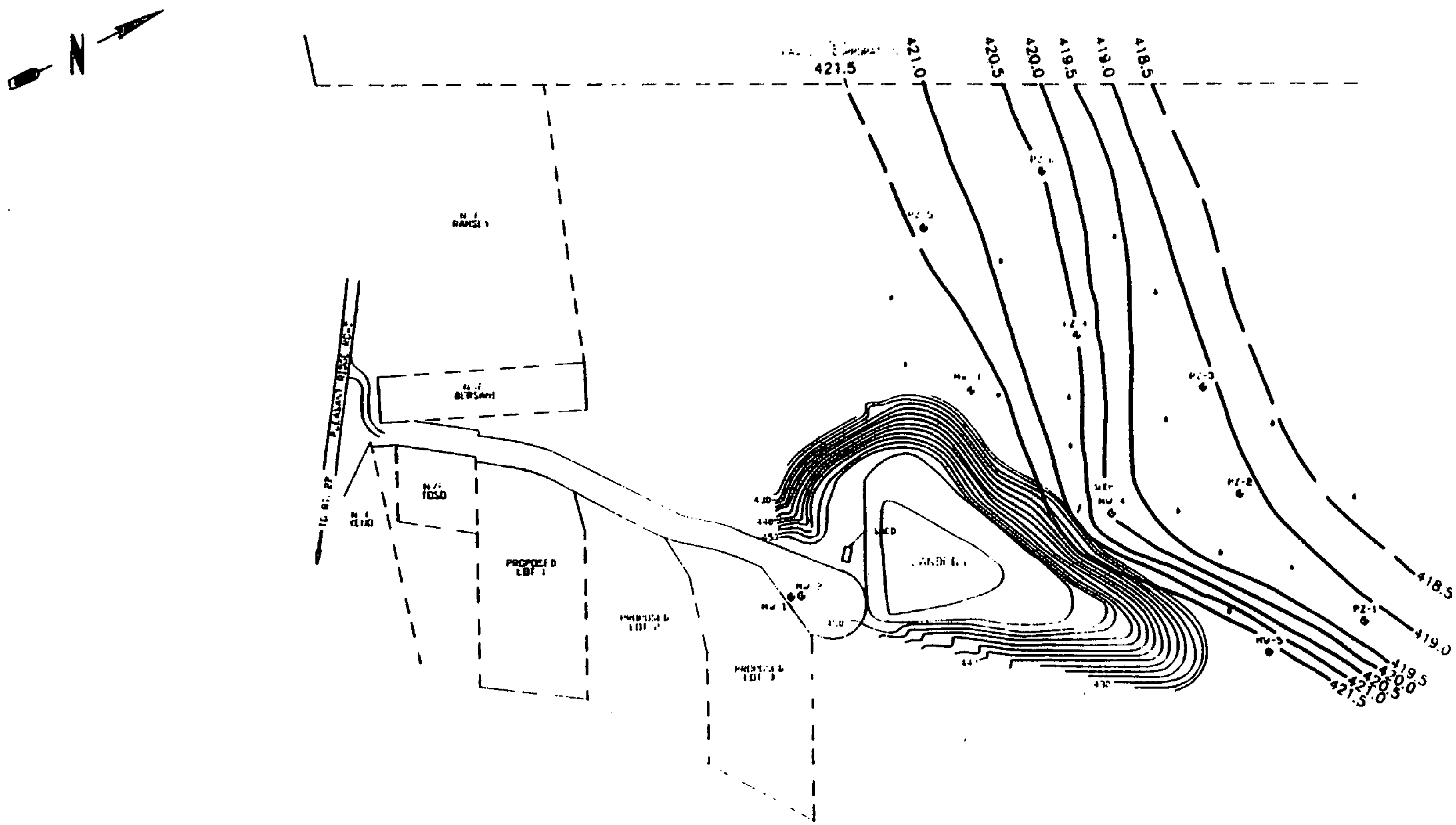
MW-2 ● MONITOR WELL

PZ-1 ◆ PIEZOMETER

--- PROPERTY LINE

0 100

DRAWN	CHECKED	TOWN OF DOVER TOWN OF DOVER LANDFILL WINGDALE, NEW YORK
BAM	RL	WELL LOCATION MAP
	DATE / REVISED	PREPARED BY LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water Consultants 72 Danbury Road Wilton, CT 06897 (203) 762-1207



REFERENCE MAP

GRADING FEATURES SHOWN BASED ON DRAWINGS TITLED "CLOSURE PLAN TOWN OF DOVER REFUSE DISPOSAL AREA FINAL GRADING PLAN AND COVER REQUIREMENTS" PREPARED BY MORRIS & ANDROS ENGINEERING CONSULTANTS, DECEMBER [illegible]
[illegible] LOCATIONS AND PROPERTY BOUNDARIES SHOWN BASED ON DRAWINGS TITLED "TOWN OF DOVER" PREPARED BY [illegible] LAND SURVEYOR [illegible] 29, 1990

DRAWN	CHECKED	
DAH	RL	TOWN OF DOVER TOWN OF DOVER LANDFILL WINGDALE, NEW YORK
		GROUND-WATER CONTOUR MAP

DATE	REVISED

PREPARED BY
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water Consultants
[illegible] Danbury Road
[illegible]

REFERENCE # 12
PAGE 125 OF 125

REFERENCE 13

REFERENCE # 13
PAGE 1 OF 10

STATE OF NEW YORK

DEPARTMENT OF CONSERVATION

WATER RESOURCES COMMISSION

Ground-Water Resourses of Dutchess County, New York

By

E. T. SIMMONS, I. G. GROSSMAN, AND R. C. HEATH

Geologists, U. S. Geological Survey

Prepared by the

U. S. GEOLOGICAL SURVEY

in cooperation with the

NEW YORK WATER RESOURCES COMMISSION

BULLETIN GW-43

ALBANY, N. Y.

1961

The Cheshire is not important as a source of ground water because of its small areal extent and because it underlies steeply sloping hillsides which are sparsely settled. Only five wells in the county are known to tap quartzite; these are listed in table 13.

Stockbridge limestone.--Over the Cheshire quartzite is a thick sequence of carbonate rocks, which underlie a much greater part of the county than the quartzite. In the east, carbonate rocks lie beneath the broad Harlem Valley, which contains Tenmile River and its principal tributaries and which extends almost without interruption from the Putnam County line to the Columbia County line. In the south, the valley of Fishkill Creek is underlain by limestone which extends from Beacon northeastward to the head of the creek. Other areas in the western and central parts of the county also are underlain by elongate masses of carbonate rocks (pl. 2).

Several different names have been applied to the carbonate rocks in different parts of the county, including Barnegat limestone (Mather, 1843, p. 410), Fishkill limestone (Gordon, 1911, p. 70), and Wappinger limestone (Gordon, p. 48). Knopf (1956, p. 1817) found that the carbonate rocks near Stissing Mountain range in age from Early Cambrian to Early Ordovician and divided them into the Stissing dolomite, Pine Plains formation, Briarcliff dolomite, Halcyon Lake formation, and Rochdale limestone. Because there appear to be no essential differences in the water-bearing properties of the carbonate rocks, all are included in this report under the Stockbridge limestone, after the locality in Massachusetts where they were first described (Emmons, 1842, p. 154-156).

The carbonate rocks range in composition from almost pure calcium carbonate (limestone) to almost pure calcium-magnesium carbonate (dolomite). Limestone is more abundant in the upper part of the sequence and dolomite is more common in the lower part. Table 3 lists an analysis of a typical sample of dolomite from the Stockbridge limestone.

This analysis shows that more than 10 percent of the dolomite consists of impurities, chiefly silica and alumina. In some localities these impurities are abundant enough to form sandy and shaly beds in the Stockbridge.

Table 3.--Chemical composition of dolomite 1/ from the Stockbridge limestone

Determination	Percent by weight
Lime (CaO)........................	29.07
Magnesia (MgO)........................	16.29
Carbonic acid (H_2CO_3)............	40.76
Alumina (Al_2O_3)..................	2.33
Ferric oxide (Fe_2O_3).............	.47
Silica (SiO_2).....................	10.17
Total........................	99.09

1/ Collected at the Stoneco quarry of the Clinton Point Stone Co. about 4 miles south of Poughkeepsie. Analysis from Ries (1901, p. 779).

The metamorphism of the Stockbridge limestone generally increases in intensity from northwest to southeast. In the northwest and west, the formation is relatively undisturbed and original bedding is easily visible. Fossils have been found in the formation as far south as Clove Valley. Farther east, however, as in the Valley of Swamp River, the formation has been metamorphosed to a marble and the beds are severely folded. Balk noted that the folding is greater in the thin layers than in the thicker ones and that it is greatest near thrust faults. In the southeastern part of the county, the marble has been so severely deformed by plastic flow that it appears to be wrapped around stronger rocks. South of Pawling, the marble contains masses of schist that are folded and faulted into the limestone.

The deformation of the Stockbridge limestone makes it difficult to determine its thickness. In southwestern Putnam County, where the formation is relatively undisturbed, the thickness is about 1,000 feet. At Stissing Mountain, near Pine Plains in the north-central part of Dutchess County, the thickness of the different limestones and dolomites measured by Knopf (1946, p. 1211) totals 2,800 feet. The thickness of the carbonate rocks is probably about 1,000 feet in most places in the county. The Stockbridge limestone weathers readily and commonly forms valley and lowland areas. In the valley of Fishkill Creek, solution cavities filled with clay and sand have been reported.

Hudson River formation.--The Hudson River formation is the most extensive bedrock unit in the county. As may be seen from plate 2, it extends from the Hudson River in the west to the Connecticut State line in the east, interrupted by only a few relatively narrow limestone belts. The name "Hudson River slate group" was first used by Mather (1840, p. 212, 256-258) for the slaty rocks in the southeastern part of the State. Gordon (1911) mapped these rocks in the Poughkeepsie quadrangle as the "Hudson River group." Berkey and Rice (1921) mapped the same rocks in southwestern Dutchess County as "Hudson River shales and phyllites." In the southeastern part of the county these rocks are referred to as "Hudson River pelite" in publications by Balk (1936) and Barth (1936). In the Copake quadrangle in southeastern Columbia County, the names Elizaville shale (mainly Cambrian, possibly including some Lower Ordovician), Berkshire schist (Ordovician), and Trenton black slate (Ordovician) have been used by Weaver (1957, pl. 1) for rocks that extend southward into northeastern Dutchess County. Ruedemann (1942) divided the predominantly argillaceous rocks in the Catskill quadrangle, in northwestern Dutchess County, into the Nassau beds and Schodack shale (including Bomoseen grit) of Cambrian age, and the Deepkill shale and Normanskill shale (including the Mount Merino member and the Austin Glen member) of Ordovician age. As used in this report, the Hudson River formation includes all the argillaceous and schistose rocks in Dutchess County.

Although the Hudson River formation is preponderantly argillaceous, it includes a large variety of rock types. The lower part of the unit contains much sandstone ("grit") and is locally called bluestone by some well drillers. The unit also contains chert and beds of sandstone, limestone, and conglomerate. Quartz veins are very abundant. The shale itself is locally black, gray, red, or green.

The metamorphism of the Hudson River formation increases in intensity from northwest to southeast, just as in the Stockbridge limestone. At Red Hook, in the northwestern part of the county, the unit is a shale. The shale grades imperceptibly southeastward into a slate and then into a lustrous phyllite. Between the valley of Wappinger Creek and the headwaters of Fishkill Creek, it is chiefly a phyllite. Farther southeast, between Fishkill Creek and the Harlem Valley it is predominantly a garnet-bearing schist. In the extreme southeastern part of the county, east of Pawling, it is a gneissic schist. The gneissic schist in this area contains amphibolite lenses and pegmatite intrusions.

p4lit

Unconsolidated Deposits

Unconsolidated material deposited chiefly by glaciers and glacial melt water in Pleistocene time, lies on the bedrock in Dutchess County. Minor amounts of stream-laid material of Recent age mantle the Pleistocene deposits in a few narrow, discontinuous valley areas and in some lakes and swamps. The unconsolidated deposits are widespread and relatively thick, at least in lowland areas. The greatest thickness occurs in the gorge of the Hudson River, where borings for the Catskill Aqueduct of New York City penetrated several hundred feet of fill, most of which is probably of glacial origin. The deepest boring was at the Storm King crossing, near the Putnam County line, where bedrock reportedly was encountered at a depth of 608 feet below river level. If this reported depth is correct, the deepest part of the bedrock gorge probably is somewhat below 608 feet because it is unlikely that the drill was situated at exactly the deepest point. The layers penetrated by these borings ranged in composition from a mixture of clay and boulders to sand and gravel.

The Pleistocene drift is divided into three units, shown on plate 3: (1) till (unstratified drift), consisting of a mixture of rock materials deposited directly by the ice; (2) lacustrine deposits, consisting of silt and clay laid down in lakes; and (3) sand and gravel deposited in lowlands and in lakes from glacial melt water.

Till.--Till consists of a heterogeneous mixture of rock fragments of all sizes from microscopic particles of clay to large boulders several feet in diameter. As may be seen on plate 3, it is the most widespread of the Pleistocene deposits.

The till was laid down directly from the glacial ice, which was thick enough to pass over the highest peaks in the county, as well as the highest peaks of the Catskill and Taconic Mountains. The ice moved in a southerly direction, as indicated by the alinement of grooves and striations on exposed rock surfaces. Erosion was the dominant process in upland areas. Thus, the present-day cover of glacial debris in these areas is generally thin (less than 30 feet thick) or absent. Exceptions exist where thick deposits of till were laid down beneath the ice in the form of elliptical hills known as drumlins. These hills may contain as much as 200 feet of clay till. In lowland areas, the dominant process was that of deposition and the glacial deposits in these areas are relatively thick. For example, well Du 758, about 2 miles southwest of Wappingers Falls, penetrated 140 feet of unconsolidated material before reaching the Hudson River formation.

The rock fragments composing the till were derived mainly from the bedrock in the immediate area. In areas underlain by shale, slate, phyllite, and schist, the till consists largely of clay. In areas underlain by limestone, dolomite, or marble, the till contains numerous calcareous pebbles. Six mechanical analyses were made by the U.S. Department of Agriculture (Secor and others, 1955, p. 128) of samples of soil in the county derived from glacial till. These samples consisted mainly of calcareous sandstone and some admixed shale, slate, limestone, and igneous erratics. The samples were collected from progressively greater depths. The analyses show that more than half of each sample consisted of silt and clay, and that the content of sand and fine gravel increased slightly from a low of 36.3 percent (by weight), at a depth of 0 to 10 inches, to a high of 43.0 percent, at a depth of 68 to 144 inches. In some areas, lenses of relatively clean sand may occur in till. However, sand lenses in till are generally thin and of small areal extent. Most of the till is clayey and some of it may even be cemented or compacted to form a tough aggregate referred to as "hardpan" by local drillers.

Lacustrine deposits.--Stratified drift deposited in glacial lakes underlies several areas in the county, notably along the Hudson River and in the lowland north of the Hudson Highlands in the southwestern part of the county. The approximate extent of these deposits where they compose the uppermost unconsolidated deposit is shown on plate 3. As may be seen from the plate, they underlie an irregularly shaped and relatively extensive area in the northwestern corner of the county, from the mouth of Crum Elbow Creek north to the county line. In the southwestern part of the county, they underlie numerous small areas from Poughkeepsie south to the Highlands.

Woodworth (1905, p. 175) believed that the lacustrine deposits along the Hudson River were laid down in one large lake, called glacial Lake Albany, which was dammed by a single tongue of stagnant ice. Cook (1942, p. 192) suggests, on the other hand, that the deposits were laid down in a complex series of small lakes rather than in a single lake. These lakes were largely restricted to the area adjacent to the Hudson River in the western part of the county. Thus, lacustrine deposits either are not present in the eastern part of the county or, if present, occupy relatively small areas and are covered by other unconsolidated deposits which obscure their presence.

The lacustrine deposits in the western part of the county contain layers of silt and clay that were deposited in those parts of the lakes in which the water was relatively quiet. The deposits also contain interbedded layers of sand and silt that were laid down near the mouths of streams entering the lakes. At the time the lakes drained, the lacustrine deposits formed a terrace that sloped westward toward the present channel of the Hudson River. The altitude of the terrace ranges from about 220 feet near its eastern margin to about 120 feet near the river. This terrace has been considerably modified by postglacial stream erosion.

Sand and gravel.--Stratified drift consisting principally of sand and gravel underlies extensive areas in the major stream valleys and in some tributary valleys. As shown in plate 3, the most extensive deposits are in the valleys drained by Fishkill Creek, Sprout Creek, Swamp River, Tenmile River, and Wappinger Creek.

The rate at which water moves through deposits, and thus the readiness with which it is available for withdrawal from wells, is controlled by the permeability of the material. Permeability, which is related to the size and degree of interconnection of pore spaces and other openings, is normally very low in bedrock, till, and fine-grained unconsolidated deposits, such as silt and clay. It is moderately high in deposits of coarse sand and in deposits of sand and gravel.

In view of these significant differences between the water-bearing characteristics of the unconsolidated deposits and those of the bedrock, the following discussion of the occurrence of ground water in Dutchess County is divided into two sections, one devoted to the unconsolidated deposits and one devoted to the bedrock.

Occurrence of Water in Unconsolidated Deposits

Unconsolidated surficial deposits overlie the bedrock almost everywhere in Dutchess County. These are divided into two units on the basis of their water-bearing characteristics. The first consists of unstratified deposits termed "till," which predominate in upland areas, and the second consists of stratified deposits of gravel, sand, silt, and clay, which predominate in valley areas.

Deposits in Uplands

Till, a mixture of rock materials ranging in size from clay to large boulders, is the principal unconsolidated deposit on the hills (pl. 3). Although till is generally unsorted and unstratified, in a few areas it contains lenses or irregular bodies of sand and gravel. Till overlying limestone generally consists of clay mixed with grains, pebbles, and cobbles of limestone, whereas till overlying slate and schist consists principally of clay mixed with a little quartz sand, and a small percentage of sandstone pebbles and cobbles. Granite and gneiss are generally overlain by a sandy till containing an abundance of large boulders. Till generally ranges in thickness from 10 to 20 feet on hilltops to 20 to 40 feet on the slopes. However, in a few valley areas and other places it is more than 100 feet thick. Its greatest thicknesses are generally found in drumlins-- low, elliptical hills shaped by the Pleistocene ice sheet. Osborne Hill, about 4 miles north-northeast of Beacon in the southwestern part of the county (pl. 1), is believed to be a drumlin. Well Du 455, on the east side of this hill, penetrated about 120 feet of till, as shown in the log in table 12.

Glacial till is not a productive water-bearing deposit because of its poor sorting and high clay content. Water in usable quantities can generally be obtained from till only from large-diameter wells, which provide a large area for the infiltration of water and a large volume for the storage of water between periods of use. The average yield of the six wells for which

Yields have been reported is 3 gpm (gallons per minute) with a range from 1 to 4 gpm. The yields of most wells that draw from till are not known, because pumps are operated for only short periods and draw largely from water stored in the well. In general, wells tapping till may be expected to yield only a few hundred gallons a day.

The permeability of till is very low, and hence the movement of ground water into and through the deposit is extremely slow. As a result, most of the precipitation on areas underlain by till either runs off on the surface or is intercepted by plants to satisfy transpiration needs before it can reach the water table. Most wells drawing water from till are dug only a few feet below the water table. Thus, during dry periods many of these wells either "go dry" or fail to yield the required quantity of water. Most wells in Dutchess County reported to have been inadequate one or more times since construction, or to have failed completely, are dug wells tapping glacial till. Many of these wells are on hills, and the failures are largely due to seasonal decline of the water table.

Deposits in Valleys

The thickest unconsolidated deposits in Dutchess County occur in valleys and other lowland areas. These deposits consits of (1) till, (2) fine-grained stratified deposits of silt and clay, and (3) coarse-grained stratified deposits of sand and gravel. Plate 3 is a map of the county showing the principal unconsolidated deposit in each area. Areas shown as underlain by till generally do not contain any other unconsolidated deposit. Till in many of the valley areas underlies low irregularly shaped hills that are surrounded by stratified deposits. In other areas, as at Pawling in the southeast corner of the county, the till extends from the uplands across the lowlands as a relatively continuous sheet. Till in the lowlands is generally thicker than in the uplands. Its average thickness is probably between 25 and 50 feet, though the actual thickness in some areas exceeds 100 feet. The water-bearing characteristics of the till are similar to those of the till in the uplands.

The fine-grained stratified deposits are widely distributed throughout most valley areas. Those areas in which the unconsolidated deposits consist entirely or almost entirely of clay and silt are shown on plate 3. However, fine-grained stratified deposits are present also in many of the areas shown on the map to be underlain by sand and gravel. In these areas the clay and silt may either overlie, be interbedded with, or underlie the sand and gravel. Plate 3 shows that most of the areas in which clay and silt is the principal unconsolidated deposit are in the western part of the county, either adjacent to or near the Hudson River. These deposits are generally less than 50 feet thick, although they are as much as 125 feet thick in the area bordering the Hudson River south of Rhinebeck.

Table 6.--Yield of wells tapping bedrock in Dutchess County

Water-bearing unit	Yield (gpm)			Number of wells	Remarks
	Average	Range			
		Low	High		
Hudson River formation	16	0	135	311	Most wells tap slate or phyllite; few tap schist or gneiss.
Stockbridge limestone	22	1	220	118	Does not include well Du 630.
Chesnire quartzite	10	2	30	5	Includes 3 wells penetrating both quartzite and other rocks.
Undifferentiated granite and gneiss	11	1	45	20	
All bedrock combined	17	0	220	454	

Table 6 shows that the yield of wells is related to the type of bedrock. The Stockbridge limestone is the most productive bedrock formation in the county, yields averaging about 22 gpm and ranging up to 220 gpm. The larger yields may indicate that joints and other openings in this formation have been enlarged by solution, although the lack of outcrops and generally thick cover of unconsolidated deposits effectively prevent observation of solutional effects. The Hudson River formation, which is the most wide-spread bedrock aquifer, is the second most productive. Yields from 311 wells in this unit average 16 gpm and range up to 135 gpm. The yields of 25 wells tapping granite and gneiss and the Cheshire quartzite are generally small, averaging about 10 or 11 gpm. Although some of these averages are based on a comparatively small number of records, they are believed to be representative. For example, the yields of 288 wells tapping granite and gneiss in adjacent Putnam County (Grossman, 1957, table 8) average 11 gpm.

The type of overlying material has an important effect on the yield of wells in bedrock. Table 7 shows that the average yield of wells tapping bedrock that is overlain by sand and gravel is more than 30 gpm. By contrast, the average yield of bedrock wells where the overlying material consists predominantly of clay or till is only about 13 gpm. Deposits of sand and gravel store large amounts of water and transmit water readily to the underlying bedrock where hydraulic continuity exists between the two materials. However, some of the large yields reported from bedrock wells overlain by sand and gravel may result from leakage of water from the overlying permeable deposits directly into the well. The yield of wells in bedrock where the overlying unconsolidated deposits are absent or are less than 10 feet thick is about the same, or only a little greater, than of wells where the overlying deposits are thicker but consist of impermeable till or clay. Thus, it may be concluded that thick but impermeable deposits which tend to retain the water above the bedrock have about the same effect on yield of bedrock as no overlying material at all.

Topographic location apparently affects the yield of bedrock wells in some areas (Ellis, 1909, p. 101). In Dutchess County, the yield is generally highest from bedrock wells situated in valleys and is lowest on hills. Table 8 shows that the average yield of wells in valleys is about 20 gpm compared to an average of about 16 gpm for wells on hillsides and an average of about 12 gpm for wells on hilltops. The Cheshire quartzite is not included in the table because only a few records of wells drawing from this formation are available. The influence of topography on the yields of wells apparently stems, at least in part, from the fact that the water table is generally closer to the land surface in valleys than on hills. Thus, wells of the same depth penetrate a greater thickness of saturated material in valleys than on hills and yield more water, other things being equal.

It should be emphasized that the factors affecting the yield of wells in bedrock are interdependent and tend to operate in the same direction. Thus, most wells drilled in valleys have comparatively large yields not only because of their favorable topographic location but also because the bedrock there is more permeable and is more likely to be overlain by permeable sand and gravel. Similarly, most wells drilled on hills yield smaller quantities of water not only because of a less favorable topographic situation, but also because the bedrock is less likely to be overlain by permeable deposits.

REFERENCE 14

FROST ASSOCIATES

P.O.Box 495, Essex, Connecticut 06426
(203) 767-7644 FAX (203) 767-1971

Jan 12, 1995

To: Edgar Aguado
Ebasco Services Inc.
1290 Wall Street West
P.O Box 661
Lyndhurst, New Jersey 07071

Fr: Bob Frost
Frost Associates
P.O. Box 495
Essex, Conn 06426

Tel: (203) 767-1254
Fax: (203) 767-7069

Sub: Dover Landfill #2
Dover, NY

CERCLIS: NYD9080508139

Job: 50051

Site Longitude: 73-35-15 73.587502
Site Latitude : 41-42-37 41.710281

The CENTRACTS report below identifies the population, households, and private water wells of each Block Group that lies within, or partially within, the 4, 3, 2, 1, .5, and .25, mile "rings" of the latitude and longitude coordinates above. CENTRACTS may have up to ten radii of any length. 1000 block groups, and 15000 block group sides.

CENTRACTS uses the 1990 Block Group population and Block Group house count data found in the Census Bureau's 1990 STF-1A files. The sources of water supply data are from the Bureau's 1990 STF-3A files. The boundary line coordinates of the Block Groups were extracted from the Census Bureau's 1990 TIGER/Line Files.

CENTRACTS reports are created with programs written by Frost Associates, P.O. Box 495, Essex, Conn. The code was written using Microsoft's Quick-Basic Ver. 4.5.

Latitude and Longitude coordinates identifying a site are entered in degrees and decimal degrees. One or more county files holding Block Group boundary lines are selected for use by CENTRACTS by determining whether the site coordinates fall within the minimum and maximum Lat\Lon coordinates of each county in the state.

Each Block Group line segment has Lat\Lon coordinates representing the "From" and "To" ends of that line. All coordinates from the selected county files are read and converted from degrees, decimal degrees to X\Y miles from the site location. Each line segment is then examined whether it lies within or partially within the maximum ring from the site.

The unique Block Group ID numbers of each line segment that lie within the maximum ring are retained. All Block Group boundary lines matching the Block Group numbers are then extracted from the respective county files to obtain all sides of the included Block Groups. Boundary records are then sorted in adjacent side order to determine the shape and area of each Block Group polygon.

A method to solve for the area of a polygon is to take one-half the sum of the products obtained by multiplying each X-coordinate by the difference between the adja-

Jan 12, 1995

To: Edgar Aguado
Ebasco Services Inc.
1290 Wall Street West
P.O Box 661
Lyndhurst, New Jersey 07071

Fr: Bob Frost
Frost Associates
P.O. Box 495
Essex, Conn 06426

Tel: (203) 767-1254
Fax: (203) 767-7069

Sub: Dover Landfill #2
Dover, NY

CERCLIS: NYD9080508139

Job: 50051

Site Longitude: 73-35-15 73.587502
Site Latitude : 41-42-37 41.710281

The CENTRACTS report below identifies the population, households, and private water wells of each Block Group that lies within, or partially within, the 4, 3, 2, 1, .5, and .25, mile "rings" of the latitude and longitude coordinates above. CENTRACTS may have up to ten radii of any length. 1000 block groups, and 15000 block group sides.

CENTRACTS uses the 1990 Block Group population and Block Group house count data found in the Census Bureau's 1990 STF-1A files. The sources of water supply data are from the Bureau's 1990 STF-3A files. The boundary line coordinates of the Block Groups were extracted from the Census Bureau's 1990 TIGER/Line Files.

CENTRACTS reports are created with programs written by Frost Associates, P.O. Box 495, Essex, Conn. The code was written using Microsoft's Quick-Basic Ver. 4.5.

Latitude and Longitude coordinates identifying a site are entered in degrees and decimal degrees. One or more county files holding Block Group boundary lines are selected for use by CENTRACTS by determining whether the site coordinates fall within the minimum and maximum Lat\Lon coordinates of each county in the state.

Each Block Group line segment has Lat\Lon coordinates representing the "From" and "To" ends of that line. All coordinates from the selected county files are read and converted from degrees, decimal degrees to X\Y miles from the site location. Each line segment is then examined whether it lies within or partially within the maximum ring from the site.

The unique Block Group ID numbers of each line segment that lie within the maximum ring are retained. All Block Group boundary lines matching the Block Group numbers are then extracted from the respective county files to obtain all sides of the included Block Groups. Boundary records are then sorted in adjacent side order to determine the shape and area of each Block Group polygon.

A method to solve for the area of a polygon is to take one-half the sum of the products obtained by multiplying each X-coordinate by the difference between the adja-

Dover Landfill 22
Dover, NY

cent Y-coordinates. For a polygon with coordinates at adjacent angles A, B, C, D, and E. The formula can be expressed:

Area = 1/2{Xa(Ye-Yb)+ Xb(Ya-Yb)+ Xc(Yb-Yd)+ Xd(Yc-Ye)+ Xe(Yd-Ya)}

For each ring, the selected Block Groups will be inside, outside, or intersected by the ring. When a polygon is intersected, the partial Block Group area within that ring is calculated using the method described below.

When a ring intersects a Block Group, the intersect points are solved and plotted at the points where the ring enters and exits the shape. The chord line, a line within the circle connecting the intersect points is determined. This chord line is used to calculate the segment area, the half moon shape between the chord line and the ring, and the sub-polygon created by the chord line and the Block Group boundaries that lie outside the ring.

The segment area is subtracted from the sub-polygon area to determine the area of the sub-polygon outside the ring. The area outside the ring is then subtracted from the area of the entire polygon to arrive at the inside area. This inside area is then divided by the tract's total area to determine the percentage of area within the ring. This process is repeated for each block group that is intersected by one of the rings. The total area, partial area, and percentage of partial area of those block groups within, or partially within a ring, are held in memory for the report.

On occasion, the algorithm described above is unable to determine the area of the partial area. Within the report program is a "Paint" routine which allows an enclosed shape to be highlighted. Another routine calculates the percentage of highlighted screen pixels to the pixels within the polygon. A manual entry is allowed. Both the "paint" method and manual entry method over ride the calculated method.

CENTRACTS lists, starting on page 4, all Block Groups in State, County, Census Tract, and Block Group ID order that lie within, or partially within, the maximum ring. Each Block Group is identified by a City or Town name and by the Block Group's State, County, Tract and Block Group ID number. Following is the Block Group's 1990 populu tion and house count extracted from the Census Bureau's 1990 STF-1A files.

The next four columns display water source data from the 1990 STF-3A files. The first column is "Units with Public system or private company source of water", followed by "Units with individual well, Drilled, source of water"; "Units with individual well, Dug, source of water" and "Units with Other source of water".

For each ring, **CENTRACTS** then shows the Block Groups that are within that ring, the Block Group's total area in square miles, the partial area of the Block Group within that ring, and the partial percentage within the ring. The areas of the included Block Group and the partial areas are then totaled.

The last section tallies the demographic data within each ring. The percentage of area for each Block Group is multiplied times the census data for that Block Group and totaled for all Block Group's within the ring. Ring totals are then determined by subtracting the three mile data from the four mile, the two mile from the three mile, one from the two, etc... Population on private wells is calculated using the formula: ((Drilled + Dug Wells) / Households) * Population

Dover Landfill 32
Dover, NY

No.	City	Block Group ID	Blk Grp People	House Holds	Public Water	Drilled Wells	Dug Wells	Other
1	Amenia	36027 0100 2	437	244	74	26	136	6
2	Amenia	36027 0100 3	1752	751	54	24	655	5
3	La Grange	36027 1800 1	3616	1356	97	80	1173	3
4	Washington	36027 2000 9	2270	1075	92	82	884	43
5	Dover	36027 0400011	1015	383	27	24	348	6
6	Dover	36027 0400012	1270	472	128	45	318	0
7	Dover	36027 0400013	854	415	296	13	59	5
8	Dover	36027 0400014	1049	413	166	0	260	8
9	Dover	36027 0400021	1091	498	56	8	420	0
10	Dover	36027 0400022	771	344	27	40	279	0
	Totals:		14125	5951	1017	342	4532	76

REFERENCE # 14
PAGE 5 OF 17

Dover Landfill 42
Dover, NY

City	Census Tract ID	Tract People	House Count	Public Water	Drilled Wells	Dug Wells	Other Wells
Amenia	36027 0100 2	437	244	74	26	136	6
Amenia	36027 0100 3	1752	751	54	24	655	5
	Sub Totals:	2189	995	128	50	791	11
Dover	36027 0400014	1049	413	166	0	260	8
Dover	36027 0400021	1091	498	56	8	420	0
Dover	36027 0400011	1015	383	27	24	348	6
Dover	36027 0400012	1270	472	128	45	318	0
Dover	36027 0400013	854	415	296	13	59	5
Dover	36027 0400022	771	344	27	40	279	0
	Sub Totals:	6050	2525	700	130	1684	19
La Grange	36027 1800 1	3616	1356	97	80	1173	3
	Sub Totals:	3616	1356	97	80	1173	3
Washington	36027 2000 9	2270	1075	92	82	884	43
	Sub Totals:	2270	1075	92	82	884	43

Dover Landfill 52
Dover, NY

For Radius of 4 Mi., Circle Area = 50.265482

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
1	Amenia	36027 1002	0.197739	0.197739	100.00
2	Amenia	36027 1003	27.431616	1.835707	6.69
3	La Grange	36027 18001	37.429089	7.228950	19.31
4	Washington	36027 20009	57.793491	3.682193	6.37
5	Dover	36027 400011	14.018237	13.884991	99.05
6	Dover	36027 400012	5.630180	5.630180	100.00
7	Dover	36027 400013	0.450117	0.450117	100.00
8	Dover	36027 400022	6.145606	1.001251	16.29
9	Dover	36027 400021	16.754677	8.646584	51.61
10	Dover	36027 400014	8.392633	8.392633	100.00
	Totals:		174.243378	50.950340	

For Radius of 3 Mi., Circle Area = 28.274334

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
1	Amenia	36027 1002	0.197739	0.081856	41.40
2	Amenia	36027 1003	27.431616	0.061790	0.23
3	La Grange	36027 18001	37.429089	2.799927	7.48
4	Washington	36027 20009	57.793491	0.586952	1.02
5	Dover	36027 400011	14.018237	6.294252	44.90
6	Dover	36027 400012	5.630180	5.067553	90.01
7	Dover	36027 400013	0.450117	0.450117	100.00
8	Dover	36027 400022	6.145606	0.120492	1.96
9	Dover	36027 400021	16.754677	5.396421	32.21
10	Dover	36027 400014	8.392633	7.414974	88.35
	Totals:		174.243378	28.274334	

For Radius of 2 Mi., Circle Area = 12.566371

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
5	Dover	36027 400011	14.018237	1.256749	8.97
6	Dover	36027 400012	5.630180	3.575000	63.50
7	Dover	36027 400013	0.450117	0.065237	14.49
9	Dover	36027 400021	16.754677	1.881582	11.23
10	Dover	36027 400014	8.392633	5.787803	68.96
	Totals:		45.245842	12.566370	

For Radius of 1 Mi., Circle Area = 3.141593

Dover Landfill 62
Dover, NY

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
6	Dover	36027 400012	5.630180	1.164979	20.69
10	Dover	36027 400014	8.392633	1.976614	23.55
	Totals:		14.022814	3.141593	

For Radius of .5 Mi., Circle Area = 0.785398

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
6	Dover	36027 400012	5.630180	0.239400	4.25
10	Dover	36027 400014	8.392633	0.545998	6.51
	Totals:		14.022814	0.785398	

For Radius of .25 Mi., Circle Area = 0.196350

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
10	Dover	36027 400014	8.392633	0.196350	2.34
	Totals:		8.392633	0.196350	

Dover Landfill 72
Dover, NY

==================== Site Data =================

Population:	6264.25
Households:	2617.05
Drilled Wells:	140.70
Dug Wells:	1706.60
Other Water Sources:	28.60

============= Partial (RING) data ===============

---- Within Ring: 4 Mile(s) and 3 Mile(s) ----

Population:	2039.71
Households:	858.16
Drilled Wells:	55.42
Dug Wells:	680.17
Other Wells:	10.68

** Population On Private Wells: 1748.38

---- Within Ring: 3 Mile(s) and 2 Mile(s) ----

Population:	2357.42
Households:	1023.95
Drilled Wells:	51.77
Dug Wells:	558.29
Other Wells:	11.14

** Population On Private Wells: 1404.52

---- Within Ring: 2 Mile(s) and 1 Mile(s) ----

Population:	1357.28
Households:	540.00
Drilled Wells:	24.20
Dug Wells:	341.11
Other Wells:	4.90

** Population On Private Wells: 918.18

---- Within Ring: 1 Mile(s) and .5 Mile(s) ----

Population:	387.60
Households:	148.00
Drilled Wells:	7.40
Dug Wells:	96.60
Other Wells:	1.36

** Population On Private Wells: 272.36

Dover Landfill 82
Dover, NY

---- Within Ring: .5 Mile(s) and .25 Mile(s) ----

Population:	97.70
Households:	37.28
Drilled Wells:	1.91
Dug Wells:	24.35
Other Wells:	0.33

** Population On Private Wells: 68.85

---- Within Ring: .25 Mile(s) and 0 Mile(s) ----

Population:	24.54
Households:	9.66
Drilled Wells:	0.00
Dug Wells:	6.08
Other Wells:	0.19

** Population On Private Wells: 15.45

** Total Population On Private Wells: 4427.75

FROST ASSOCIATES

P.O.Box 495, Essex, Connecticut 06426
(203) 767-7644 FAX (203) 767-1971

Jan 12, 1995

To: Edgar Aguado
Ebasco Services Inc.
1290 Wall Street West
P.O Box 651
Lyndhurst, New Jersey 07071

Fr: Bob Frost
Frost Associates
P.O. Box 495
Essex, Conn 06426

Tel: (203) 767-1254
Fax: (203) 767-7069

Sub: Dover Landfill #2
Dover, NY

CONNECTICUT PORTION

CERCLIS: NYD9080508139

Job: 50051

Site Longitude:	73-35-15	73.587502
Site Latitude :	41-42-37	41.710281

The CENTRACTS report below identifies the population, households, and private water wells of each Block Group that lies within, or partially within, the 4, 3, 2, 1, .5, and .25, mile "rings" of the latitude and longitude coordinates above. CENTRACTS may have up to ten radii of any length. 1000 block groups, and 15000 block group sides.

CENTRACTS uses the 1990 Block Group population and Block Group house count data found in the Census Bureau's 1990 STF-1A files. The sources of water supply data are from the Bureau's 1990 STF-3A files. The boundary line coordinates of the Block Groups were extracted from the Census Bureau's 1990 TIGER/Line Files.

CENTRACTS reports are created with programs written by Frost Associates, P.O. Box 495, Essex, Conn. The code was written using Microsoft's Quick-Basic Ver. 4.5.

Latitude and Longitude coordinates identifying a site are entered in degrees and decimal degrees. One or more county files holding Block Group boundary lines are selected for use by CENTRACTS by determining whether the site coordinates fall within the minimum and maximum Lat\Lon coordinates of each county in the state.

Each Block Group line segment has Lat\Lon coordinates representing the "From" and "To" ends of that line. All coordinates from the selected county files are read and converted from degrees, decimal degrees to X\Y miles from the site location. Each line segment is then examined whether it lies within or partially within the maximum ring from the site.

The unique Block Group ID numbers of each line segment that lie within the maximum ring are retained. All Block Group boundary lines matching the Block Group numbers are then extracted from the respective county files to obtain all sides of the included Block Groups. Boundary records are then sorted in adjacent side order to determine the shape and area of each Block Group polygon.

A method to solve for the area of a polygon is to take one-half the sum of the products obtained by multiplying each X-coordinate by the difference between the adja-

ent Y-coordinates. For a polygon with coordinates at adjacent angles A, B, C, D, and . The formula can be expressed:

rea = 1/2(Xa(Ye-Yb)+ Xb(Ya-Yb)+ Xc(Yb-Yd)+ Xd(Yc-Ye)+ Xe(Yd-Ya))

For each ring, the selected Block Groups will be inside, outside, or intersected by the ring. When a polygon is intersected, the partial Block Group area within that ring is calculated using the method described below.

When a ring intersects a Block Group, the intersect points are solved and plotted at the points where the ring enters and exits the shape. The chord line, a line within the circle connecting the intersect points is determined. This chord line is used to calculate the segment area, the half moon shape between the chord line and the ring, and the sub-polygon created by the chord line and the Block Group boundaries that lie outside the ring.

The segment area is subtracted from the sub-polygon area to determine the area of the sub-polygon outside the ring. The area outside the ring is then subtracted from the area of the entire polygon to arrive at the inside area. This inside area is then divided by the tract's total area to determine the percentage of area within the ring. This process is repeated for each block group that is intersected by one of the rings. The total area, partial area, and percentage of partial area of those block groups within, or partially within a ring, are held in memory for the report.

On occasion, the algorithm described above is unable to determine the area of the partial area. Within the report program is a "Paint" routine which allows an enclosed shape to be highlighted. Another routine calculates the percentage of highlighted screen pixels to the pixels within the polygon. A manual entry is allowed. Both the "paint" method and manual entry method over ride the calculated method.

CENTRACTS lists, starting on page 4, all Block Groups in State, County, Census Tract, and Block Group ID order that lie within, or partially within, the maximum ring. Each Block Group is identified by a City or Town name and by the Block Group's State, County, Tract and Block Group ID number. Following is the Block Group's 1990 populu tion and house count extracted from the Census Bureau's 1990 STF-1A files.

The next four columns display water source data from the 1990 STF-3A files. The first column is "Units with Public system or private company source of water", followed by "Units with individual well, Drilled, source of water"; "Units with individual well, Dug, source of water" and "Units with Other source of water".

For each ring, CENTRACTS then shows the Block Groups that are within that ring, the Block Group's total area in square miles, the partial area of the Block Group within that ring, and the partial percentage within the ring. The areas of the included Block Group and the partial areas are then totaled.

The last section tallies the demographic data within each ring. The percentage of area for each Block Group is multiplied times the census data for that Block Group and totaled for all Block Group's within the ring. Ring totals are then determined by subtracting the three mile data from the four mile, the two mile from the three mile, one from the two, etc... Population on private wells is calculated using the formula: ((Drilled + Dug Wells) / Households) * Population

over Landfill 32
over, NY

CONNECTICUT PORTION

No.	City	Block Group ID	Blk Grp People	House Holds	Public Water	Drilled Wells	Dug Wells	Other
1	Kent	09005 2661 2	1304	626	82	404	105	24
2	Kent	09005 2661 3	10	6	0	5	0	0
	Totals:		1314	632	82	409	105	24

over Landfill 42
over, NY

CONNECTICUT PORTION

City	Census Tract ID		Tract People	House Count	Public Water	Drilled Wells	Dug Wells	Other Wells
Kent	09005 2661	2	1304	626	82	404	105	24
Kent	09005 2661	3	10	6	0	5	0	0
	Sub Totals:		1314	632	82	409	105	24

over Landfill 52
over, NY

CONNECTICUT PORTION

For Radius of 4 Mi., Circle Area = 50.265482

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
1	Kent	09005 26612	22.883135	0.616061	2.69
2	Kent	09005 26613	0.131418	0.069000	52.50
	Totals:		23.014553	0.685061	

For Radius of 3 Mi., Circle Area = 28.274334

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
	Totals:		0.000000	0.000000	

For Radius of 2 Mi., Circle Area = 12.566371

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
	Totals:		0.000000	0.000000	

For Radius of 1 Mi., Circle Area = 3.141593

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
	Totals:		0.000000	0.000000	

For Radius of .5 Mi., Circle Area = 0.785398

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius
	Totals:		0.000000	0.000000	

For Radius of .25 Mi., Circle Area = 0.196350

No.	City	Block Group ID	Total Area	Partial Area	% Within Radius

Dover Landfill 62
Dover, NY

CONNECTICUT PORTION

REFERENCE # 14
PAGE 15 OF 17

===	==================	============	==========	==========	======
	Totals:		0.000000	0.000000	

=================== Site Data =================

Population:	40.36
Households:	20.00
Drilled Wells:	13.50
Dug Wells:	2.83
Other Water Sources:	0.65

============= Partial (RING) data ===============

---- Within Ring: 4 Mile(s) and 3 Mile(s) ----

Population:	40.36
Households:	20.00
Drilled Wells:	13.50
Dug Wells:	2.83
Other Wells:	0.65

** Population On Private Wells: 32.94

---- Within Ring: 3 Mile(s) and 2 Mile(s) ----

Population:	0.00
Households:	0.00
Drilled Wells:	0.00
Dug Wells:	0.00
Other Wells:	0.00

** Population On Private Wells: Not Applicable

---- Within Ring: 2 Mile(s) and 1 Mile(s) ----

Population:	0.00
Households:	0.00
Drilled Wells:	0.00
Dug Wells:	0.00
Other Wells:	0.00

** Population On Private Wells: Not Applicable

---- Within Ring: 1 Mile(s) and .5 Mile(s) ----

Population:	0.00
Households:	0.00
Drilled Wells:	0.00
Dug Wells:	0.00
Other Wells:	0.00

** Population On Private Wells: Not Applicable

---- Within Ring: .5 Mile(s) and .25 Mile(s) ----

Population:	0.00
Households:	0.00
Drilled Wells:	0.00
Dug Wells:	0.00
Other Wells:	0.00

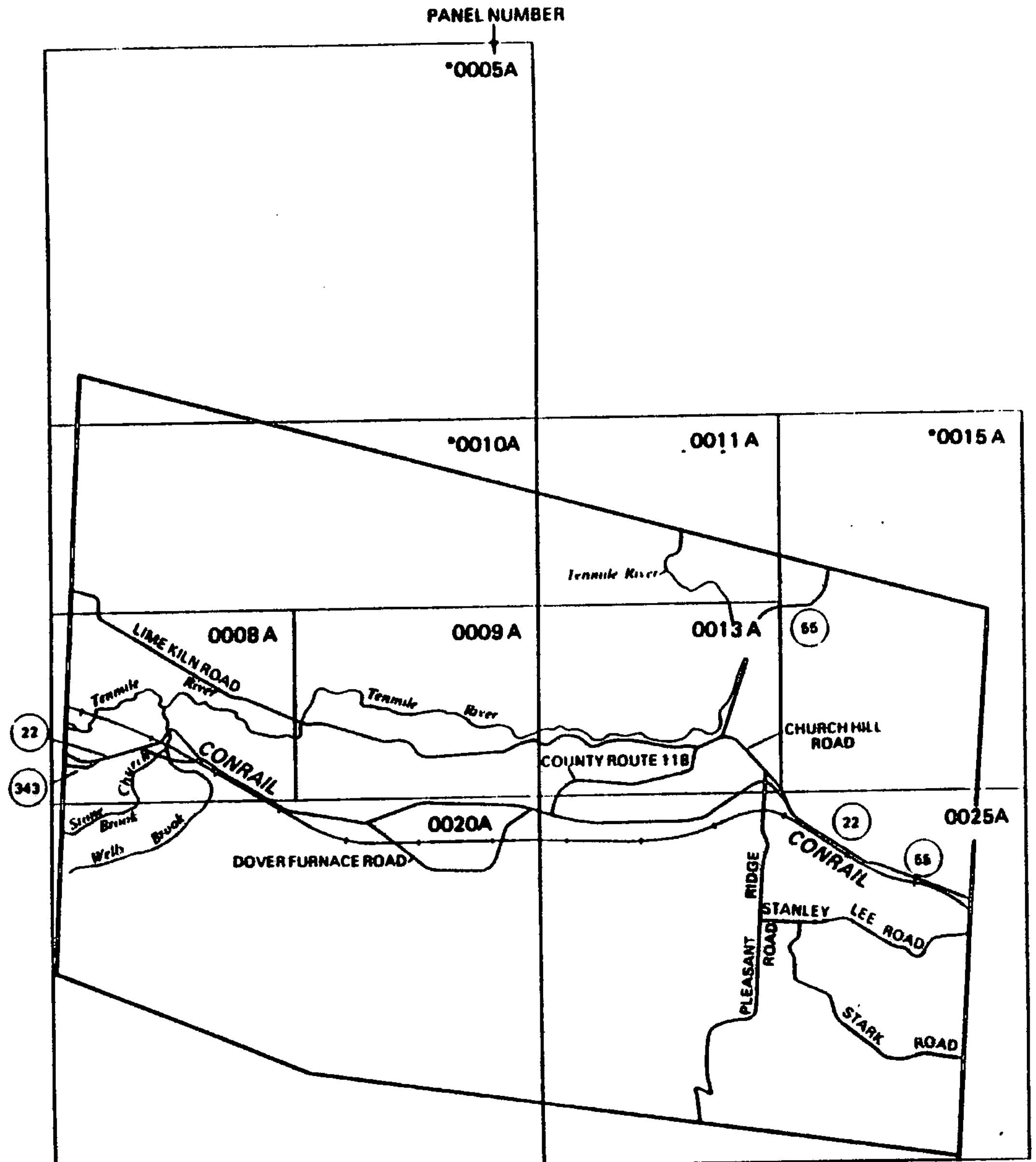
** Population On Private Wells: Not Applicable

---- Within Ring: .25 Mile(s) and 0 Mile(s) ----

Population:	0.00
Households:	0.00
Drilled Wells:	0.00
Dug Wells:	0.00
Other Wells:	0.00

** Population On Private Wells: Not Applicable

REFERENCE 15



*PANEL NOT PRINTED-AREA IN ZONE C

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
DOVER,
NEW YORK
DUTCHESS COUNTY

MAP INDEX

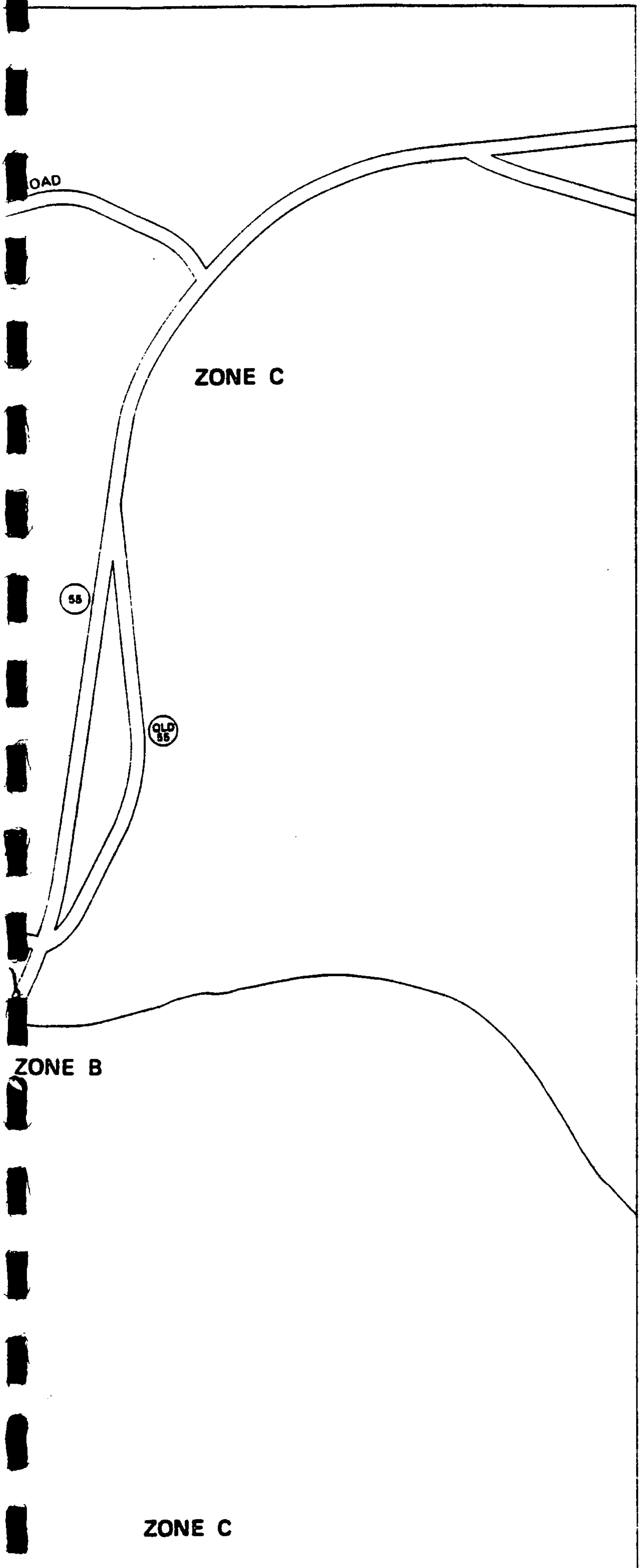
PANELS PRINTED: 8, 9, 11, 13, 20, 25

COMMUNITY-PANEL NUMBERS
361335 0001-0025

EFFECTIVE DATE:
AUGUST 15, 1984

Federal Emergency Management Agency

REFERENCE 15
PAGE 1 OF 1



KEY TO MAP

500-Year Flood Boundary
100-Year Flood Boundary
Zone Designations*
100-Year Flood Boundary
500-Year Flood Boundary

Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation in Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7×
Zone D Boundary	
River Mile	•M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
DECEMBER 6, 1974
FLOOD HAZARD BOUNDARY MAP REVISIONS:
NONE

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF

DOVER,
NEW YORK

DUTCHESS COUNTY

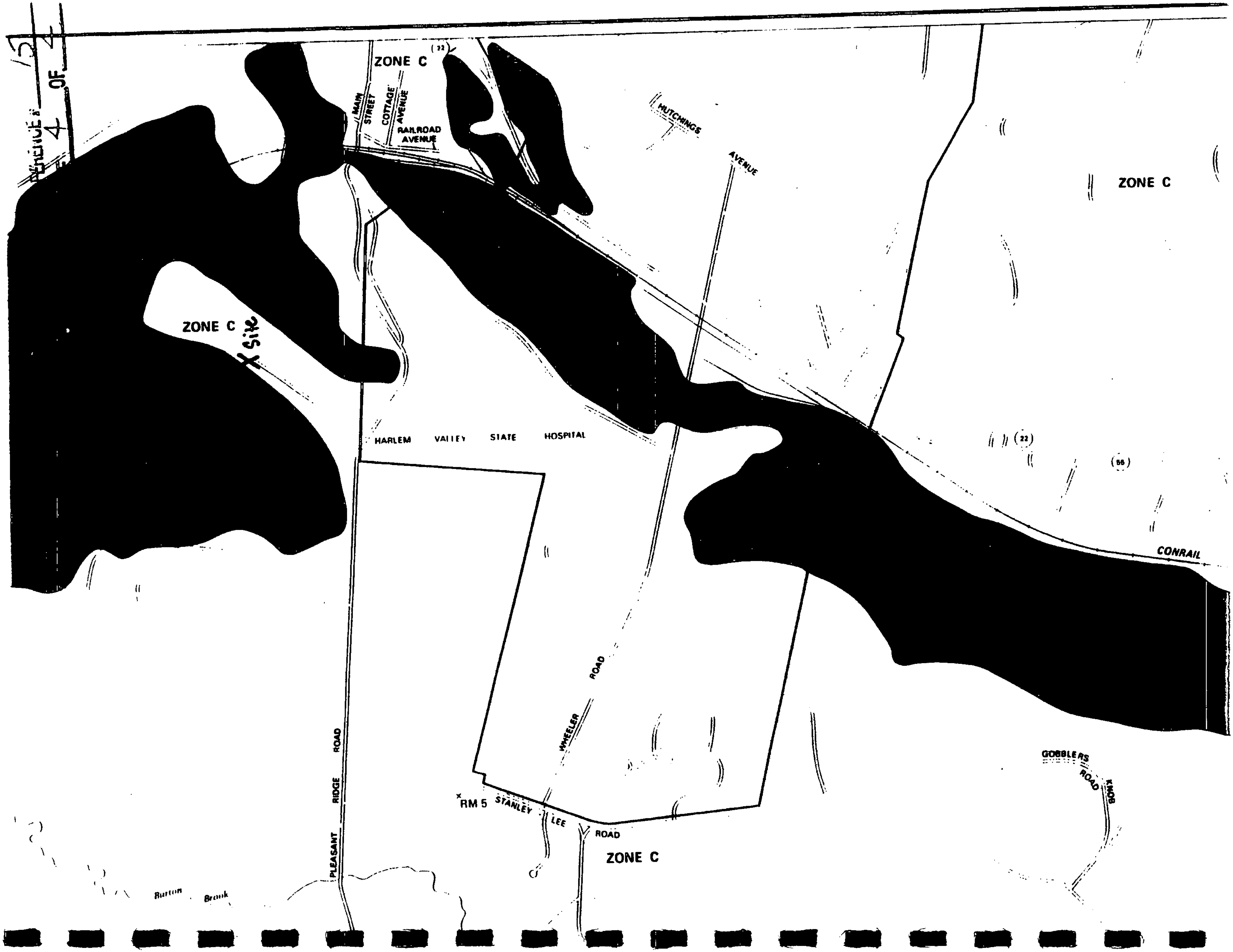
PANEL 25 OF 25
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
361335 0025 A

EFFECTIVE DATE:
AUGUST 15, 1984

Federal Emergency Management Agency

REFERENCE # 15
PAGE 3 OF 4



ZONE C
MAIN STREET
COTTAGE AVENUE
RAILROAD AVENUE
HUTCHINGS
AVENUE
ZONE C
ZONE C
X Site
HARLEM VALLEY STATE HOSPITAL
22
55
CONRAIL
WHEELER ROAD
PLEASANT RIDGE ROAD
RM 5
STANLEY LEE ROAD
ZONE C
GOBBLERS KNOB ROAD
Burton Brook

REFERENCE 16

TECHNICAL PAPER NO. 40

RAINFALL FREQUENCY ATLAS OF THE UNITED STATES

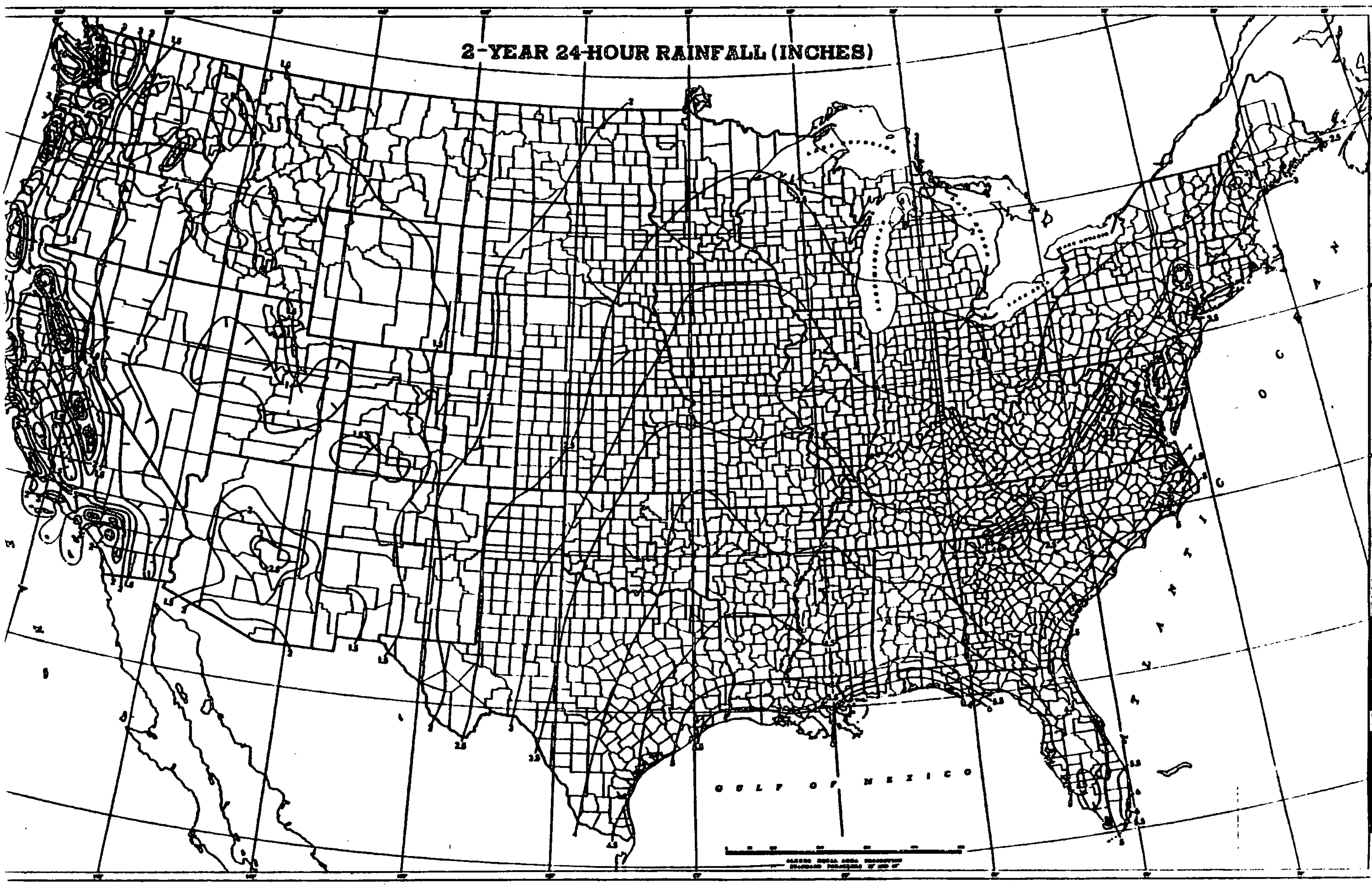
for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years

K2.32
R

REFERENCE # 16
PAGE 1 OF 2

REFERENCE # 7

PAGE 1 OF 16



REFERENCE 17

ARTICLE 6

Housatonic River Drainage Basin

SUBCHAPTER B

Classes and Standards of Quality and Purity Assigned to Fresh Surface and Tidal Salt Waters (continued)

825.6 Table I.

TABLE I

Classifications and Standards of Quality and Purity Assigned to Fresh Surface Waters within the Housatonic River Drainage Basin, Dutchess and Columbia Counties, State of New York

Item No.	Waters Index Number	Name	Comments	Map Ref. No.	Class	Standards
1	Conn. 12 portion	Tributary of Housatonic River	From New York-Conn. state line to 1000 ft. upstream.	O-25se	B	B
2	Conn. 12 portion and trib. 12-1	Tributary of Housatonic River and subtributary	From 1000 ft. upstream from state line to source.	O-25se	C	C
3	Conn. 14 portion	Tributary of Housatonic River	From New York-Conn. state line to 1000 ft. upstream.	O-25se	B	B
4	Conn. 14 portion	Tributary of Housatonic River	From 1000 ft. upstream from state line to source.	O-25se	C	C(TS)
5	Conn. 14-P 112	Brady pond		O-25se	C	C
6	Conn. 15 portion	Tenmile River	From New York-Conn. state line to Lake Ellis Road Bridge.	O-25ne	B	B(T)
6a	Conn. 15 portion	Tenmile River	From Lake Ellis Road Bridge to trib. 6.	O-25ne	C	C(T)
7	Conn. 15 portion	Tenmile River	From trib. 6 to trib. 7.	O-25ne	B	B(T)
8	Conn. 15 portion	Tenmile River	From trib. 7 to source.	N-25se	C	C(T)
9	Conn. 15-1	Tributary of Tenmile River		O-25ne	C	C(T)

REFERENCE PAGE 3 OF 17

20 [redacted] Con[redacted] port[redacted] [redacted]ary [redacted] Tenmile River [redacted]

TABLE I *(cont'd)*

Item No.	Waters Index Number	Name	Description	Map Ref. No.	Class	Standards
21	Conn. 15-2-1	Subtributary of Tenmile River		O-25ne	C	C(T)
22	Conn. 15-2-P 1113c, P 1113a, P 1113d, 5, 8	Subtributaries of Tenmile River		O-25ne O-25se	C	C
23	Conn. 15-2-P 1114	Quaker Lake		O-25se	B	B
24	Conn. 15-2-P 1114-1, P 1114a	Tributaries of Quaker Lake		O-25se	C	C
25	Conn. 15-2a, 2b, 2c, 2d, 2e, 2f	Tributaries of Tenmile River and subtributary		O-25ne	C	C
26	Conn. 15-3 portion	Tributary of Tenmile River	From mouth to 1.0 mile upstream from mouth.	O-25ne	C	C(T)
27	Conn. 15-3 portion	Tributary of Tenmile River	From 1.0 mile upstream from mouth to source.	O-25ne	C	C(TS)
28	Conn. 15-3-2	Subtributary of Tenmile River		O-25ne	C	C
29	Conn. 15-4 portion	Swamp River	From mouth to trib. 6.	O-25ne	C	C(T)
30	Conn. 15-4 portion	Swamp River	From trib. 6 to trib. 8 water supply from Harlem Valley State Hospital.	O-25ne O-25se	A	A(T)

DOVER PLAINS

MAP O-25ne

CLASS "B"

Best usage of waters. Primary contact recreation and any other uses except as a source of water supply for drinking, culinary or food processing purposes.

Quality Standards for Class "B" Waters

Items	*Specifications*
1. Coliform.	The monthly median coliform value for 100 ml of sample shall not exceed 2,400 from a minimum of five examinations, and provided that not more than 20 percent of the samples shall exceed a coliform value of 5,000 for 100 ml of sample and the monthly geometric mean fecal coliform value for 100 ml of sample shall not exceed 200 from a minimum of five examinations. This standard shall be met during all periods when disinfection is practiced.
2. pH	Shall be between 6.5 and 8.5.
3. Total dissolved solids.	None at concentrations which will be detrimental to the growth and propagation of aquatic life. Waters having present levels less than 500 milligrams per liter shall be kept below this limit.
4. Dissolved oxygen.	For cold waters suitable for trout spawning, the DO concentration shall not be less than 7.0 mg/l from other than natural conditions. For trout waters, the minimum daily average shall not be less than 6.0 mg/l. At no time shall the DO concentration be less than 5.0 mg/l. For non-trout waters, the minimum daily average shall not be less than 5.0 mg/l. At no time shall the DO concentration be less than 4.0 mg/l.

CLASS "C"

Best usage of waters. The waters are suitable for fishing and fish propagation. The water quality shall be suitable for primary and secondary contact recreation even though other factors may limit the use for that purpose.

Quality Standards for Class "C" Waters

Items	*Specifications*
1. Coliform.	The monthly median coliform value for 100 ml of sample shall not exceed 2,400 from a minimum of five examinations, and provided that not more than 20 percent of the samples shall exceed a coliform value of 5,000 for 100 ml of sample and the monthly geometric mean fecal coliform value for 100 ml of sample shall not exceed 200 from a minimum of five examinations. This standard shall be met during all periods when disinfection is practiced.
2. pH	Shall be between 6.5 and 8.5.

3. Total dissolved solids.	None at concentrations which will be detrimental to the growth and propagation of aquatic life. Waters having present levels less than 500 milligrams per liter shall be kept below this limit.
4. Dissolved oxygen.	For cold waters suitable for trout spawning, the DO concentration shall not be less than 7.0 mg/l from other than natural conditions. For trout waters, the minimum daily average shall not be less than 6.0 mg/l. At no time shall the DO concentration be less than 5.0 mg/l. For non-trout waters, the minimum daily average shall not be less than 5.0 mg/l. At no time shall the DO concentration be less than 4.0 mg/l.

CLASS "D"

Best usage of waters. The waters are suitable for fishing. The water quality shall be suitable for primary and secondary contact recreation even though other factors may limit the use for that purpose. Due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery or stream bed conditions, the waters will not support fish propagation.

Conditions related to best usage of waters. The waters must be suitable for fish survival.

Quality Standards for Class "D" Waters

Items	*Specifications*
1. pH	Shall be between 6.0 and 9.5.
2. Dissolved oxygen.	Shall not be less than 3 milligrams per liter at any time.
3. Coliform.	The monthly median coliform value for 100 ml of sample shall not exceed 2,400 from a minimum of five examinations and provided that not more than 20 percent of the samples shall exceed a coliform value of 5,000 for 100 ml of sample and the monthly geometric mean fecal coliform value for 100 ml of sample shall not exceed 200 from a minimum of five examinations. This standard shall be met during all periods when disinfection is practiced.

Historical Note

Sec. added by renum. and amd. 701.4, filed July 3, 1985; amd. filed Sept. 20, 1985 eff. 30 days after filing.

701.20 Classes and standards for saline surface waters. The following items and specifications shall be the standards applicable to all New York saline surface waters which are assigned the classification of SA, SB, SC or SD, in addition to the specific standards which are found in this section under the heading of each such classification.

REFERENCE 18

New York State Department of Environmental Conservation
21 South Putt Corners Road, New Paltz, NY 12561-1696
(914) 256-3000

Langdon Marsh
Commissioner

December 20, 1994

Ms. Donna J. Bolner
Wehran-New York, Inc.
PO Box 2006
Middletown, New York 10940-0858

Dear Ms. Bolner:

I have received your letters, which were forwarded to me by Paul Carella, requesting fisheries information for the Dover Cricket Hill Road and the Dover Landfill No. 2 Sites.

Based on a review of the information you provided and the Dover Plains USGS topographic map, it appears that both sites drain into the Swamp River (Conn 15-4). The Swamp River flows north and is a tributary of the Ten Mile River. The East Branch Croton River has its headwaters near Pawling and flows south to the Hudson River. Accordingly, I will focus my fisheries comments only on the Swamp River.

The Swamp River upstream of Dover Furnace is a canoeable low gradient stream passing through a large woodland swamp. Although we have no recent fisheries survey information for this section, I believe it contains some trout. Summer water temperatures, however, get too warm to provide good year-round trout habitat. This section does, however, provide some fishing opportunity for largemouth bass, sunfish and suckers. Fishing pressure is light (less than 150 hours/acre).

The Swamp River downstream of the dam at Dover Furnace has a much higher gradient and, as it flows north, gradually cools as it gains groundwater. This section contains a fair to good population of wild brown trout and a few wild brook trout. From Duncan Hill Road north 1.9 miles to its mouth, it is stocked with approximately 650 brown trout annually by the Department of Environmental Conservation. Fishing pressure is moderate (estimated 300 hours/acre). An electrofishing survey conducted on August 20, 1985 at three sites on the Swamp River downstream of Dover Furnance revealed the following fish species: brown trout, brook trout, largemouth bass, blacknose dace, longnose dace, pumpkinseed, bluegill, redbreast sunfish, golden shiner, tesselated darter, fallfish, brown bullhead, redfin pickerel, cutlip minnows, common shiners, white suckers, rock bass and creek chub.

There is no commercial fishing on the Swamp River or the Ten Mile River.

I hope this information will be of aid to you.

Sincerely,

Ronald Pierce

Ronald Pierce
Senior Aquatic Biologist
Region 3

RP:kc
cc: Paul Carella

REFERENCE 19

REFERENCE # 19
PAGE 1 OF 2

Low-Flow Frequency Analysis of Streams in New York

Prepared by

UNITED STATES DEPARTMENT OF INTERIOR

GEOLOGICAL SURVEY

in cooperation with

NEW YORK STATE

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

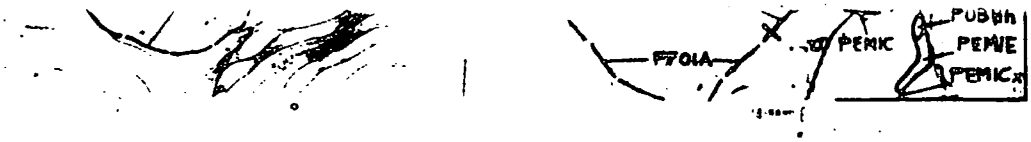
BULLETIN 74
1979

Table 1.--Location and low-flow characteristics for gaging stations and low-flow partial-record sites in New York

Station number	Station name	Latitude	Longitude	Co. code 1/	Drainage area (mi²)	Period of record 1/	MA7CD Recurrence interval 2-yr (ft³/s)	MA7CD Recurrence interval 10-yr (ft³/s)	Remarks 1/
	MENUNKETESUCK RIVER BASIN								
01199400	Webatuck Creek (head of Tenmile River) near Amenia	41 46 48	73 33 12	027	81.0	1956-65 1968	7.2	3.0	P
01199419	Wassaic Creek at Wassaic	41 47 36	73 33 06	027	36.6	1956-62 1964-66	3.1	1.3	P
01199420	Tenmile River near Wassaic	41 47 45	73 33 34	027	120	1956-65 1967	10	4.2	P
	Swamp River:								
01199470	Burton Brook near Wingdale	41 38 37	73 35 31	027	6.79	1960-66	.8	.4	P
01199480	Mill River at Dover Furnace	41 41 26	73 55 30	027	14.5	1960-66	.09	.01	P
01199490	Swamp River near Dover Plains	41 41 56	73 35 03	027	46.6	1961-68	2.1	.7	P
01200000	Tenmile River near Gaylordsville, Conn.	41 39 32	73 31 44	--	203	1931-75	26	12	G
	RIPPOWAM RIVER BASIN								
	Rippowam River:								
1209800	Mill River at Scott Corners	41 10 42	73 33 14	119	10.4	1956-59 1961-62	.6	.2	P
	MIANUS RIVER BASIN								
01210000	Mianus River at Bedford	41 12 06	73 38 00	119	10.4	1956-59 1961-62	1.7	.7	P
	BYRAM RIVER BASIN								
01211300	Byram River at Armonk	41 07 28	73 42 09	119	3.78	1956-59 1961-62	.5	.2	P
	BLIND BROOK BASIN								
01300000	Blind Brook at Rye	40 59 00	73 41 14	119	9.20	1945-75	1.0	.5	G
	BEAVER SWAMP BROOK BASIN								
01300500	Beaver Swamp Brook at Mamaroneck	40 57 21	73 43 07	119	4.71	1945-75	.5	.2	G
	MAMARONECK RIVER BASIN								
01301000	Mamaroneck River at Mamaroneck	40 57 14	73 44 06	119	23.4	1945-52 1956-76	.7	.3	GR
	HUTCHINSON RIVER BASIN								
01301500	Hutchinson River at Pelham	40 54 41	73 48 55	119	5.76	1945-75	.2	.05	GR
	BRONX RIVER BASIN								
01302000	Bronx River at Bronxville	40 56 09	73 50 10	119	26.5	1945-75	6.0	3.7	GR
	HUDSON RIVER BASIN								
01312000	Hudson River near Newcomb	43 58 00	74 07 55	031	192	1926-75	42	22	G
01313500	Cedar River below Chain Lakes, near Indian Lake	43 51 20	74 14 20	041	160	1931-61	40	24	G

REFERENCE # 19
PAGE 2 OF 2

REFERENCE 20



DOVER PLAINS, N.Y.-CONN.

NOTES TO THE USER

- Wetlands which have been field examined are indicated on the map by an asterisk (*).
- Additions or corrections to the wetlands information displayed on this map are solicited. Please forward such information to the address indicated.
- Subsystems, Classes, Subclasses, and Water Regimes in *italics* were developed specifically for NATIONAL WETLANDS INVENTORY mapping.
- Some areas designated as R4SB, R4SBW, OR R4SBJ (INTERMITTENT STREAMS) may not meet the definition of wetland.
- This map uses the class Unconsolidated Shore (US). On earlier NWI maps that class was designated Beach/Bar (BB), or Flat (FL). Subclasses remain the same in both versions.

U.S. DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

Prepared by National Wetlands Inventory

1990

AERIAL PHOTOGRAPHY

DATE:	3 / / 85	DATE	/ /
SCALE:	1 58 000	SCALE:	
TYPE:	CIR	TYPE:	

ESTUARINE — SYSTEM

2 — INTERTIDAL — SUBSYSTEM

CLASS / Subclass

AB — AQUATIC BED	RF — REEF	SB — STREAMBED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED
1 Algal 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	2 Mollusc 3 Worm	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 *Deciduous* 7 *Evergreen*

L — LACUSTRINE — SYSTEM

2 — LITTORAL — SUBSYSTEM

CLASS / Subclass

RB — ROCK BOTTOM	UB — UNCONSOLIDATED BOTTOM	AB — AQUATIC BED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	EM — EMERGENT	OW — *OPEN WATER/ Unknown Bottom*
1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 *Unknown Submergent* 6 *Unknown Surface*	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

MODIFIERS

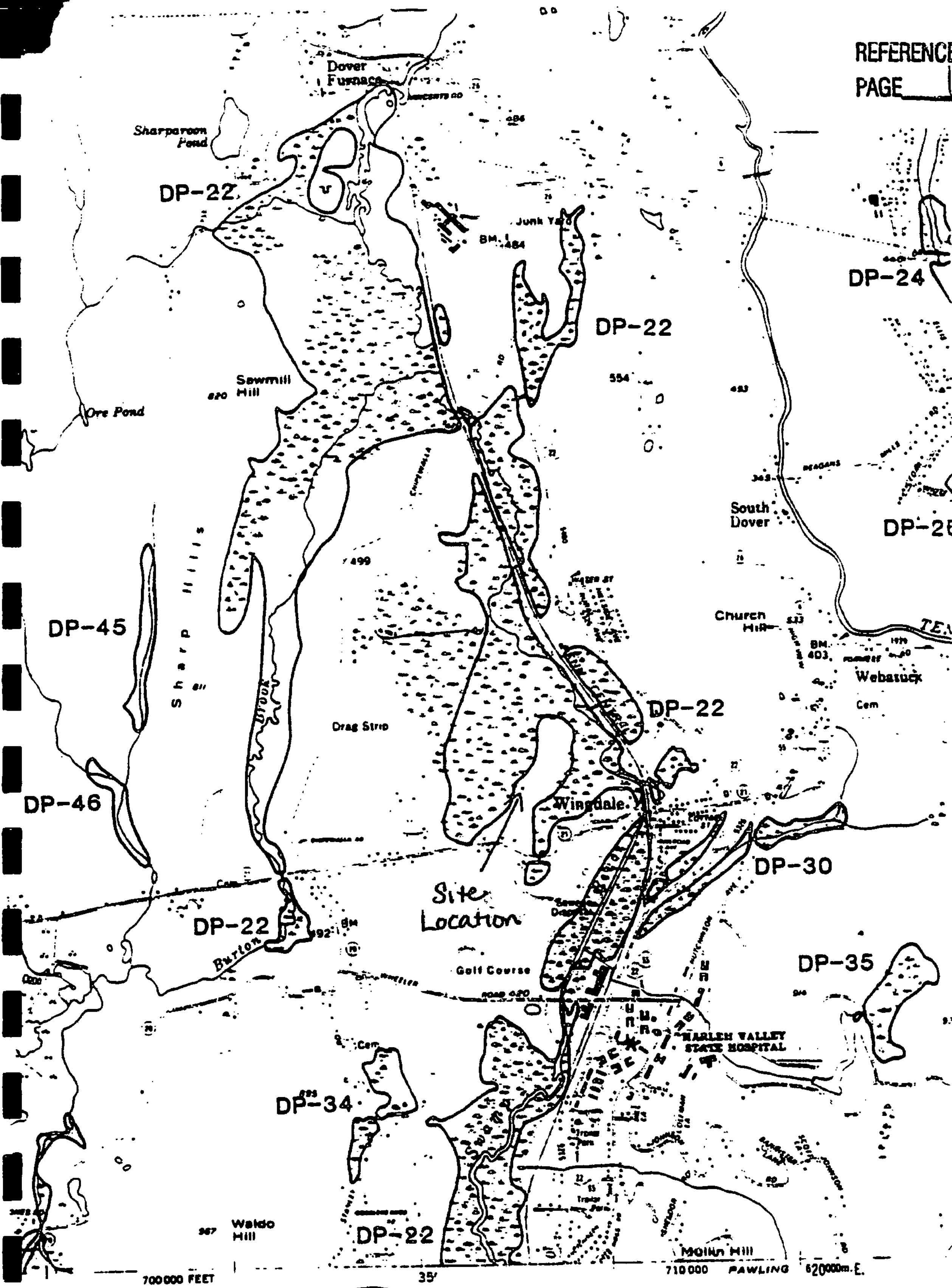
...adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, ...applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

	WATER CHEMISTRY			SOIL	SPECIAL MODIFIERS	
...idal	**Coastal Halinity**	**Inland Salinity**	**pH Modifiers for all Fresh Water**			
*S Temporary-Tidal *R Seasonal-Tidal *T Semipermanent-Tidal *V Permanent-Tidal U *Unknown*	1 Hyperhaline 2 Euhaline 3 Mixohaline *(Brackish)* 4 Polyhaline 5 Mesohaline 6 Oligohaline 0 Fresh	7 Hypersaline 8 Eusaline 9 Mixosaline 0 Fresh	a Acid t Circumneutral i Alkaline	g Organic n Mineral	b *Beaver* d *Partially Drained/Ditched* f Farmed	h *Diked/Impounded* r Artificial Substrate s *Spoil* x Excavated
...r regimes are only used in ...tidal, freshwater systems.						

24

REFERENCE 21

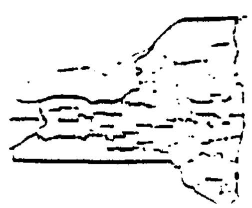
REFERENCE # 21
PAGE 1 OF 1



5

SCALE 1:24000

1000 0 1000 2000 3000 4000 5000 6000



...ew York State Department
...th the U.S. Department of
...inistration.

...vey 7.5-minute quadrangle.

... photography, construction
... sources. Features revised
...nsportation facilities; civil
...ography; and buildings.
...ped areas in which only

...nal Map Accuracy Standards.

Polyconic projection. 1927 North American datum.

1000-meter ticks based on the New York Transverse Mercator grid
Between 72° and 78° West Longitude, this grid is identical to Zone 18 of the Universal
Mercator grid. Areas east of 72° and west of 78° are direct mathematical extensions

10,000-foot ticks based on the New York Plane Coordinate g...

REFERENCE 22

REFERENCE # 22
PAGE 1 OF 12

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Wildlife Resources Center
700 Troy-Schenectady Road
Latham, NY 12110-2400
(518) 783-3932

Langdon Marsh
Acting Commissioner

December 29, 1994

Marc A. Colantuono
Wehran Emcon
666 East Main St., PO Box 2006
Middletown, New York 10940-0858

Dear Mr. Colantuono:

We have reviewed the New York Natural Heritage Program files with respect to your recent request for biological information concerning Hazardous Waste Investigations, USEPA Contract No. 68-W8-0110, Dover Landfill #2 Site, as indicated on your enclosed map, located in Saratoga County, New York State.

Enclosed is a computer printout covering the area you requested to be reviewed by our staff. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we can only provide data which have been assembled from our files. We cannot provide a definitive statement on the presence or absence of species, habitats or natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

This response applies only to known occurrences of rare animals, plants and natural communities and/or significant wildlife habitats. You should contact our regional office, Division of Regulatory Affairs, at the address enclosed for information regarding any regulated areas or permits that may be required (e.g., regulated wetlands) under State Law.

If this proposed project is still active one year from now we recommend that you contact us again so that we can update this response.

Sincerely,
Information Services
New York Natural Heritage Program

Encs.
cc: Reg. 3, Wildlife Mgr.
Reg. 3, Fisheries Mgr.

REFERENCE # 22 2

DOVER LANDFILL 1 of 2 RO. 2

Latitude: 41° ~~39'~~ ~~00"~~ 42 37

Longitude: 73° ~~34'~~ ~~00"~~ 35 15

(03

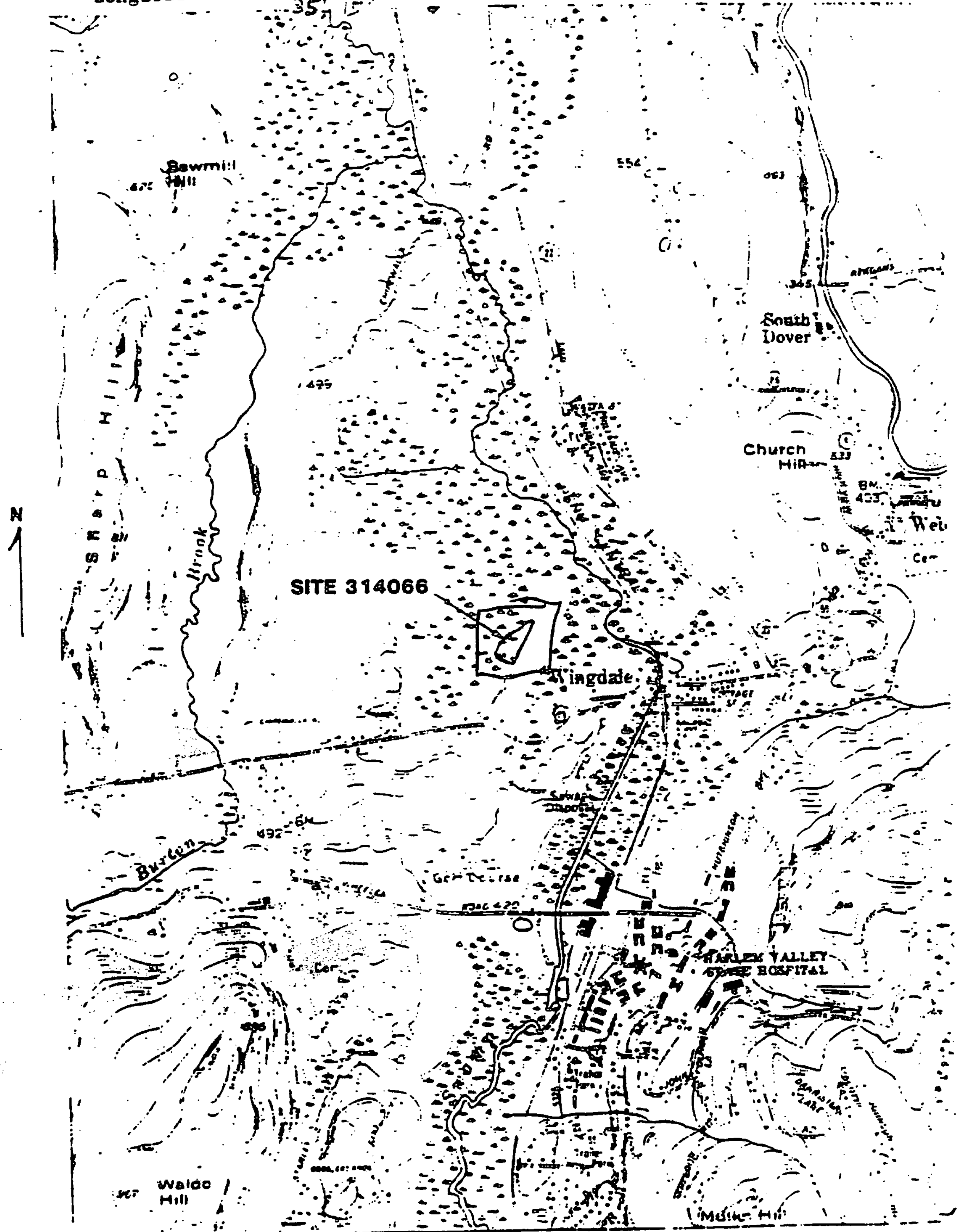


Figure 1-1. Locator map (Base map: NYSDOT. 1977 edition. 7.5-Minute Series Topographic. Scale 1:24,000).

DOVER PLAINS QUAD.

802 F

BIOLOGICAL AND CONSERVATION DATA SYSTEM - ELEMENT OCCURRENCE REPORT, 28 DEC 1994
Prepared by N.Y.S.D.E.C NATURAL HERITAGE PROGRAM

(This report contains sensitive information which should be treated in a sensitive manner. Refer to the users guide for explanation of codes and ranks.)

COUNTY & TOWN	USGS 7 1/2' TOPOGRAPHIC MAP	LAT./ LONG.	PREC-ISION	LAST SEEN	EO RANK	SCIENTIFIC NAME	COMMON NAME	ELEMENT TYPE	NY STATUS	FED. STATUS	GLOBAL RANK	STATE RANK	OFFICE	USE
DUTCHESS														
DOVER	DOVER PLAINS	413747 733143	S	1965	H	CLEMMYS MUHLENBERGII	BOG TURTLE	REPTILE	E	C2	G3	S2	4107365	6
DOVER	DOVER PLAINS	414027 733525	M	1939	F	CLEMMYS MUHLENBERGII	BOG TURTLE	REPTILE	E	C2	G3	S2	4107365	11
DOVER	DOVER PLAINS	413943 733432	S	1992	E	CLEMMYS MUHLENBERGII	BOG TURTLE	REPTILE .96	E	C2	G3	S2	4107365	8
DOVER	DOVER PLAINS	414025 733423	S	1992	E	CLEMMYS MUHLENBERGII	BOG TURTLE	REPTILE	E	C2	G3	S2	4107365	14
DOVER	DOVER PLAINS	414138 733607	S	1990	E	CROTALUS HORRIDUS	TIMBER RATTLESNAKE	REPTILE	T		G5	S3	4107365	30
DOVER	DOVER PLAINS	414047 733610	S	1991	C	CROTALUS HORRIDUS	TIMBER RATTLESNAKE	REPTILE 2.58	T		G5	S3	4107365	31
DOVER	DOVER PLAINS	414101 733200	S		C?	CROTALUS HORRIDUS	TIMBER RATTLESNAKE	REPTILE	T		G5	S3	4107365	15
DOVER	DOVER PLAINS	414140 733500	S	1987	CD	ASCLEPIAS VIRIDIFLORA	GREEN MILKWEED	VASCULAR PLANT 3.29	R		G5	S2	4107365	32
DOVER	DOVER PLAINS	414212 733414	S	1986	BC	CAREX BICKNELLII	BICKNELL SEDGE	VASCULAR PLANT	R		G5	S2	4107365	
DOVER	DOVER PLAINS	413834 733442	S	1986	C	CAREX BICKNELLII	BICKNELL SEDGE	VASCULAR PLANT 0.42	R		G5	S2	4107365	26
DOVER	DOVER PLAINS	414212 733402	S	1986	BC	CAREX BICKNELLII	BICKNELL SEDGE	VASCULAR PLANT	R		G5	S2	4107365	27

REFERENCE # 22
PAGE 3 OF 12

BIOLOGICAL AND CONSERVATION DATA SYSTEM - ELEMENT OCCURRENCE REPORT, 28 DEC 1994
Prepared by N.Y.S.D.E.C NATURAL HERITAGE PROGRAM

(This report contains sensitive information which should be treated in a sensitive manner. Refer to the users guide for explanation of codes and ranks.)

UNTY & WN	USGS 7 1/2' TOPOGRAPHIC MAP	LAT./ LONG.	PREC- ISION	LAST SEEN	EO RANK	SCIENTIFIC NAME	COMMON NAME	ELEMENT TYPE	NY STATUS	FED. STATUS	GLOBAL RANK	STATE RANK	OFFICE	USE
OVER	DOVER PLAINS	414140 733500	S	1987	C	CAREX BICKNELLII	BICKNELL SEDGE	VASCULAR PLANT	R		G5	S2	4107365	32
OVER	DOVER PLAINS	414151 733455	S	1987	D	CHAMAELIRIUM LUTEUM	BLAZING-STAR	VASCULAR PLANT	R		G5	S2	4107365	33
OVER	DOVER PLAINS	414140 733500	S	1987	AB	DRABA REPTANS	CAROLINA WHITLOW-GRASS	VASCULAR PLANT	R		G5	S2	4107365	32
OVER	DOVER PLAINS	413933 733501	S	1987	B	DRABA REPTANS	CAROLINA WHITLOW-GRASS	VASCULAR PLANT 0.87	R		G5	S2	4107365	34
OVER	DOVER PLAINS	414014 733443	S	1989	BC	LESPEDEZA VIOLACEA	VIOLET LESPEDEZA	VASCULAR PLANT 1.54	R		G5	S1	4107365	4
OVER	DOVER PLAINS	414212 733402	S	1986	BC	LINUM SULCATUM	YELLOW WILD FLAX	VASCULAR PLANT	R		G5	S2	4107365	27
OVER	DOVER PLAINS	414140 733500	S	1987	AB	LINUM SULCATUM	YELLOW WILD FLAX	VASCULAR PLANT	R		G5	S2	4107365	32
DOVER	DOVER PLAINS	414218 733414	S	1986	D	LIPARIS LILIFOLIA	LARGE TWAYBLADE	VASCULAR PLANT	R		G5	S1S2	4107365	20
DOVER	PAWLING	413702 733458	S	1986	C	RICH GRAMINOID FEN	RICH GRAMINOID FEN	COMMUNITY	U		G3	S1S2	4107355	
DOVER	PAWLING	413659 733516	S	1992	E	CLEMMYS MUHLENBERGII	BOG TURTLE	REPTILE	E	C2	G3	S2	4107355	21
DOVER	PAWLING	413726 733319	S	1986	A	CHAMAELIRIUM LUTEUM	BLAZING-STAR	VASCULAR PLANT	R		G5	S2	4107355	8

REFERENCE # 22
PAGE 4 OF 12

BIOLOGICAL AND CONSERVATION DATA SYSTEM - ELEMENT OCCURRENCE REPORT, 28 DEC 1994
Prepared by N.Y.S.D.E.C NATURAL HERITAGE PROGRAM

(This report contains sensitive information which should be treated in a sensitive manner. Refer to the users guide for explanation of codes and ranks.)

COUNTY & TOWN	USGS 7 1/2' TOPOGRAPHIC MAP	LAT./ LONG.	PREC-ISION	LAST SEEN	EO RANK	SCIENTIFIC NAME	COMMON NAME	ELEMENT TYPE	NY STATUS	FED. STATUS	GLOBAL RANK	STATE RANK	OFFICE	USE
DOVER	PAWLING	413714 733329	S	1986	B?	LINUM SULCATUM	YELLOW WILD FLAX	VASCULAR PLANT	R		G5	S2	4107355	1
DOVER	PAWLING	413652 733457	S	1986	BC	LINUM SULCATUM	YELLOW WILD FLAX	VASCULAR PLANT 2.32	R		G5	S2	4107355	16
DOVER	PAWLING	413726 733319	S	1986	C	LIPARIS LILIFOLIA	LARGE TWAYBLADE	VASCULAR PLANT 2.51	R		G5	S1S2	4107355	8
PAWLING	PAWLING	413223 733552	S	1989	AB	RED MAPLE-HARDWOOD SWAMP	RED MAPLE-HARDWOOD SWAMP	COMMUNITY	U		G5	S4S5	4107355	14
PAWLING	PAWLING	413238 733556	S	1989	AB	RICH SHRUB FEN	RICH SHRUB FEN	COMMUNITY	U		G3G4	S1S2	4107355	13
PAWLING	PAWLING	413618 733518	M	1987	E	ARDEA HERODIAS	GREAT BLUE HERON	BIRD	P		G5	S5	4107355	12
PAWLING	PAWLING	413433 733530	M	1976	H	CLEMMYS MUHLENBERGII	BOG TURTLE	REPTILE	E	C2	G3	S2	4107355	7
PAWLING	PAWLING	413504 733537	M	1991	?	CLEMMYS MUHLENBERGII	BOG TURTLE	REPTILE	E	C2	G3	S2	4107355	20
PAWLING	PAWLING	413548 733503	S	1978	E	EMYDOIDEA BLANDINGII	BLANDING'S TURTLE	REPTILE 3.56	T (1)	C2	G4	S2	4107355	9
PAWLING	PAWLING	413238 733549	S	1989	A	BETULA PUMILA	SWAMP BIRCH	VASCULAR PLANT	R		G5	S2	4107355	3
PAWLING	PAWLING	413509 733531	S	1989	C	BETULA PUMILA	SWAMP BIRCH	VASCULAR PLANT	R		G5	S2	4107355	6

REFERENCE # 22
PAGE 5 OF 12

BIOLOGICAL AND CONSERVATION DATA SYSTEM - ELEMENT OCCURRENCE REPORT, 28 DEC 1994
Prepared by N.Y.S.D.E.C NATURAL HERITAGE PROGRAM

(This report contains sensitive information which should be treated in a sensitive manner. Refer to the users guide for explanation of codes and ranks.)

UNTY & WN	USGS 7 1/2' TOPOGRAPHIC MAP	LAT./ LONG.	PREC- ISION	LAST SEEN	EO RANK	SCIENTIFIC NAME	COMMON NAME	ELEMENT TYPE	NY STATUS	FED. STATUS	GLOBAL RANK	STATE RANK	OFFICE	USE
AWLING	PAWLING	413535 733425	S	1986	C	CAREX BICKNELLII	BICKNELL SEDGE	VASCULAR PLANT	R		G5	S2	4107355	11
AWLING	PAWLING	413713 733330	S	1985	D	CASTILLEJA COCCINEA	SCARLET INDIAN-PAINTBRUSH	VASCULAR PLANT A 1)	T		G5	S1	4107355	1)
AWLING	PAWLING	413713 733330	S	1992	A	CHAMAELIRIUM LUTEUM	BLAZING-STAR	VASCULAR PLANT	R		G5	S2	4107355	1)
AWLING	PAWLING	413648 733353	M	1978	E?	GENTIANA SAPONARIA	SOAPWORT GENTIAN	VASCULAR PLANT / 1)	R	2.52	G5	S1	4107355	5)
AWLING	PAWLING	413535 733425	S	1986	C?	LINUM SULCATUM	YELLOW WILD FLAX	VASCULAR PLANT	R		G5	S2	4107355	11
ITNAM														
PATTERSON	BREWSTER	412948 733659	S	1990	AB	RICH SLOPING FEN	RICH SLOPING FEN	COMMUNITY	U		G3	S1S2	4107345	7
PATTERSON	BREWSTER	412946 733624	S	1989	A	CARDAMINE LONGII	LONG'S BITTERCRESS	VASCULAR PLANT	U		G3G4Q	S1	4107345	3
PATTERSON	BREWSTER	412948 733659	S	1990	B	CHAMAELIRIUM LUTEUM	BLAZING-STAR	VASCULAR PLANT	R		G5	S2	4107345	7
PATTERSON	BREWSTER	412833 733420	S	1989	CD	CYPERUS ERYTHRORHIZOS	RED-ROOTED FLATSEDGE	VASCULAR PLANT	R		G5	S2	4107345	2
PATTERSON	BREWSTER	412948 733659	S	1990	A	TROLLIUS LAXUS SSP LAXUS	SPREADING GLOBEFLOWER	VASCULAR PLANT	T		G4T3Q	S3	4107345	7

REFERENCE No. 22
PAGE 6 of 12

BIOLOGICAL AND CONSERVATION DATA SYSTEM - ELEMENT OCCURRENCE REPORT, 28 DEC 1994
Prepared by N.Y.S.D.E.C NATURAL HERITAGE PROGRAM

(This report contains sensitive information which should be treated in a sensitive manner. Refer to the users guide for explanation of codes and ranks.)

COUNTY & TOWN	USGS 7 1/2' TOPOGRAPHIC MAP	LAT./ LONG.	PREC- ISION	LAST SEEN	EO RANK	SCIENTIFIC NAME	COMMON NAME	ELEMENT TYPE	NY STATUS	FED. STATUS	GLOBAL RANK	STATE RANK	OFFICE	USE
PATTERSON	PAWLING	413057 733612	S	1989	BC	CAREX BUSHII	SEDGE	VASCULAR PLANT	R		G4	S2S3	4107355	10
PATTERSON	PAWLING	413028 733555	S	1989	D	CUSCUTA CAMPESTRIS	FIELD-DODDER	VASCULAR PLANT	R		G5	S1	4107355	18

Records Processed

REFERENCE # 22
PAGE 7 OF 12

BIOLOGICAL AND CONSERVATION DATA SYSTEM - ELEMENT OCCURRENCE REPORT, 25 JAN 1995
Prepared by N.Y.S.D.E.C NATURAL HERITAGE PROGRAM

(This report contains sensitive information which should be treated in a sensitive manner. Refer to the users guide for explanation of codes and ranks.)

NTY & N	USGS 7 1/2' TOPOGRAPHIC MAP	LAT./ LONG.	PREC- ISION	LAST SEEN	EO RANK	SCIENTIFIC NAME	COMMON NAME	ELEMENT TYPE	NY STATUS	FED. STATUS	GLOBAL RANK	STATE RANK	OFFICE	USE
:HESS VER	DOVER PLAINS	413919 733213	M	1982	E	CLEMMYS MUHLENBERGII	BOG TURTLE	REPTILE	E	C2	G3	S2	4107365	10

ords Processed

Wehran EMCON
Northeast

Wehran-New York, Inc.
666 East Main Street
P.O. Box 2006
Middletown, NY 10940-0858
Tel: (914) 343-0660
Fax: (914) 343-1946

November 14, 1994

Mr. Burrell Buffington
NYSDEC Informational Services
Wildlife Resources Center
Latham, New York 12110-2400

Re: Sensitive Environment Request
WE Project No. 04821.01

Dear Mr. Buffington:

Wehran-New York, Inc. has been retained by the United States Environmental Protection Agency (USEPA), under Contract No. 68-W8-0110 to perform investigations at several sites within New York State. As part of this investigation, we would like to obtain information on the following sites:

SITE/LOCATION (COUNTY)	EPA ID	
Abalene/Orkin Pest Control Site	NYD980478663	802 A
Port Henry Mineville (aka Republic Steel No. 7)	NYD987004686	802 B
Nyack Landfill Site Missing Map	NYD980507271	
Dexter Landfill	NYD982268831	802
Dover Town Dump	NYD980508154	802
Dover Landfill No. 2	NYD980508139	802 F

We would like to determine the presence or absence of the following within 15 miles downstream of each site:

- Critical Habitat for Federally designated endangered or threatened species
- Marine Sanctuary
- National Park
- Designated Federal Wilderness Area
- Ecologically important areas identified under the Coastal Zone Wilderness Act
- Sensitive areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act
- Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes)
- National Monument
- National Seashore Recreation Area
- National Lakeshore Recreation Area
- Habitat known to be used by Federally designated or proposed endangered or threatened species

RECEIVED
NOV 18 1994
N.Y. NATURAL HERITAGE

Mr. Burrell Buffington
November 14, 1994
Page 2

- National Preserve
- National or State Wildlife Refuge
- Unit of Coastal Barrier Resources System
- Federal land designated for the protection of natural ecosystems
- Administratively proposed Federal Wilderness Area
- Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay or estuary
- Migratory pathways and feeding areas critical for the maintenance of anadromous fish species in a river system
- Terrestrial area utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding
- National river reach designated as recreational
- Habitat known to be used by State designated endangered or threatened species
- Habitat known to be used by a species under review as to its Federal endangered or threatened status
- Costal Barrier (partially developed)
- Federal designated Scenic or Wild River
- State land designated for wildlife or game management
- State designated Scenic or Wild River
- State designated Natural Area
- Particular areas, relatively small in size, important to maintenance of unique biotic communities
- State-designated areas for the protection/maintenance of aquatic life under the Clean Water Act
- Wetlands

I have enclosed a map indicating the location of the site and the areas of concern.

I look forward to hearing from you soon. If you have any questions or need further information, please do not hesitate to call.

Very truly yours,

WEHRAN-NEW YORK, INC.

Marc A. Colantuono

Marc A. Colantuono
Environmental Scientist

MAC/emk
Enclosures

USERS GUIDE TO NATURAL HERITAGE DATA

DATA SENSITIVITY: The data provided in these reports is sensitive and should be treated in a sensitive manner. The data is for your in-house use only and may not be released to the general public or incorporated in any public document without prior permission from the Natural Heritage Program.

BIOLOGICAL AND CONSERVATION DATA SYSTEM ELEMENT OCCURRENCE REPORTS:

COUNTY NAME: County where the element occurrence is located.
TOWN NAME: Town where the element occurrence is located.
USGS 7 1/2' TOPOGRAPHIC MAP: Name of 7.5 minute US Geological Survey (USGS) quadrangle map (scale 1:24,000).
LAT: Centrum latitude coordinates of the location of the occurrence. Important: latitude and longitude must be used with
PRECISION (see below). For example, the location of an occurrence with M (minute) precision is not precisely known at this
time and is thought to occur somewhere within a 1.5 mile radius of the given latitude/longitude coordinates.
LONG: Centrum longitude coordinates of the location of the occurrence. See also LAT above.
PRECISION: S - seconds: Location known precisely. (within a 300' or 1-second radius of the latitude and longitude given.
M - minutes: Location known only to within a 1.5 mile (1 minute) radius of the latitude and longitude given.
SIZE (acres): Approximate acres occupied by the element at this location.
SCIENTIFIC NAME: Scientific name of the element occurrence.
COMMON NAME: Common name of the element occurrence.
ELEMENT TYPE: Type of element (i.e. plant, community, other, etc.)
LAST SEEN: Year element occurrence last observed extant at this location.
EO RANK: Comparative evaluation summarizing the quality, condition, viability and defensibility of this occurrence. Use in
combination with LAST SEEN and PRECISION.
A-E = Extant: A=excellent, B=good, C=marginal, D=poor, E=extant but with insufficiently data to assign a rank of A - D.
F = Failed to find. Did not locate species, but habitat is still there and further field work is justified.
H = Historic. Historic occurrence without any recent field information.
X = Extirpated. Field/other data indicates element/habitat is destroyed and the element no longer exists at this location.

NYS STATUS - animals: Categories of Endangered and Threatened species are defined in New York State Environmental Conservation
Law section 11-0535. Endangered, Threatened, and Special Concern species are listed in regulation 6NYCRR 182.5.
E = Endangered Species: any species which meet one of the following criteria:
1) Any native species in imminent danger of extirpation or extinction in New York.
2) Any species listed as endangered by the United States Department of the Interior, as enumerated in the Code of
Federal Regulations 50 CFR 17.11.
T = Threatened Species: any species which meet one of the following criteria:
1) Any native species likely to become an endangered species within the foreseeable future in NY.
2) Any species listed as threatened by the U.S. Department of the Interior, as enumerated in the Code of the Federal
Regulations 50 CFR 17.11.
SC = Special Concern Species: those species which are not yet recognized as endangered or threatened, but for which documented
concern exists for their continued welfare in New York. Unlike the first two categories, species of special concern
receive no additional legal protection under Environmental Conservation Law section 11-0535 (Endangered and Threatened
Species).
P = Protected Wildlife (defined in Environmental Conservation Law section 11-0103): wild game, protected wild birds, and
endangered species of wildlife.
U = Unprotected (defined in Environmental Conservation Law section 11-0103): the species may be taken at any time without
limit; however a license to take may be required.
G = Game (defined in Environmental Conservation Law section 11-0103): any of a variety of big game or small game species
as stated in the Environmental Conservation Law; many normally have an open season for at least part of the year, and
are protected at other times.

NYS STATUS - plants: The following categories are defined in regulation 6NYCRR part 193.3 and apply to New York State
Environmental Conservation Law section 9-1503.
(blank) = no state status
E = Endangered Species: listed species are those with:
1) 5 or fewer extant sites, or
2) fewer than 1,000 individuals, or
3) restricted to fewer than 4 U.S.G.S. 7 1/2 minute topographical maps, or
4) species listed as endangered by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.
T = Threatened: listed species are those with:
1) 6 to fewer than 20 extant sites, or
2) 1,000 to fewer than 3,000 individuals, or
3) restricted to not less than 4 or more than 7 U.S.G.S. 7 and 1/2 minute topographical maps, or
4) listed as threatened by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.
R = Rare: listed species have:
1) 20 to 35 extant sites, or
2) 3,000 to 5,000 individuals statewide.
U = Unprotected
V = Exploitably vulnerable: listed species are likely to become threatened in the near future throughout all or a significan
portion of their range within the state if causal factors continue unchecked.

NYS STATUS - communities: At this time there are no categories defined for communities.

continued on next page

FEDERAL STATUS (plants and animals): The categories of federal status are defined by the United States Department of the Interior as part of the 1974 Endangered Species Act (see Code of Federal Regulations 50 CFR 17). The species listed under this law are enumerated in the Federal Register vol. 50, no. 188, pp. 39526 - 39527.

(blank) = No Federal Endangered Species Act status.
LE = The taxon is formally listed as endangered.
LT = The taxon is formally listed as threatened.
LELT = The taxon is formally listed as endangered in part of its range and threatened in other parts.
PE = The taxon is proposed as endangered.
PT = The taxon is proposed as threatened.
C1 = Candidate, category 1 - There is sufficient information to list the taxon as endangered or threatened.
C2 = Candidate, category 2 - The taxon may be appropriate for listing but more data are needed.
3A = The taxon considered extinct by the U. S. Fish and Wildlife Service.
3B = The taxon is no longer considered taxonomically distinct by the U.S. Fish and Wildlife Service & thus not appropriate for listing.
3C = The taxon has been shown to be more abundant, widespread, or better protected than previously thought and therefore not in need of official listing.
* = The taxon is possibly extinct.
** = The taxon is thought to be extinct in the wild but extant in cultivation.

Additional codes:
(C2NL) = Heritage code indicating that the taxon is a candidate in some areas, not listed in other areas.
(E/SA) = Heritage code indicating that the taxon is endangered because of similarity of appearance to other endangered species or subspecies.

FEDERAL STATUS (communities): At this time there are no categories defined for communities.

GLOBAL AND STATE RANKS (animals, plants, communities and others): Each element has a global and state rank as determined by the NY Natural Heritage Program. These ranks carry no legal weight. The global rank reflects the rarity of the element throughout the world and the state rank reflects the rarity within New York State. Infraspecific taxa are also assigned a taxon rank to reflect the infraspecific taxon's rank throughout the world.

GLOBAL RANK:
G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or very few remaining acres, or miles of stream) or especially vulnerable to extinction because of some factor of its biology.
G2 = Imperiled globally because of rarity (6 - 20 occurrences, or few remaining acres, or miles of stream) or very vulnerable to extinction throughout its range because of other factors.
G3 = Either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g. a physiographic region), or vulnerable to extinction throughout its range because of other factors.
G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
GH = Historically known, with the expectation that it might be rediscovered.
GX = Species believed to be extinct.
GU = Status unknown.

STATE RANK:
S1 = Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.
S2 = Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.
S3 = Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.
S4 = Apparently secure in New York State.
S5 = Demonstrably secure in New York State.
SH = Historically known from New York State, but not seen in the past 15 years.
SX = Apparently extirpated from New York State.
SA = Accidental or casual in the state.
SE = Exotic, not native to New York State.
SP = Element potentially occurs in the state but there are no occurrences reported.
SR = Reported in the state but without persuasive documentation.
SU = Status unknown.

TAXON (T) RANK: The T-ranks (T1 - T5) are defined the same way the Global ranks (G1 - G5) are but the T-rank only refers to the rarity of the subspecific taxon of the species as a whole.
T1 through T5 = See Global Rank definitions above.
Q = Indicates a question exists whether or not the taxon is a good taxonomic entity.
? = Indicates a question exists about the rank.

OFFICE USE: Information for use by the Natural Heritage Program.

SIGNIFICANT HABITAT REPORTS:

REPORT ID:	Significant habitat file code.
NAME OF AREA:	Site name where the significant habitat is located.
TYPE OF AREA:	Type of significant habitat.
COUNTY/TOWN OR CITY:	County and town where the significant habitat is located.
QUADRANGLE:	Name of the USGS 7.5 minute topographic map where the significant habitat is located.
LATITUDE:	Latitude coordinates (degrees, minutes, seconds) for the location of the significant habitat.
LONGITUDE:	Longitude coordinates for the location of the significant habitat.

REFERENCE 23

REFERENCE # 23

PAGE 1 OF 2

Wehran EMCON Northeast

TELEPHONE CONVERSATION MEMORANDUM

Client: Ebasco

Proj. No. 04829.01

Project: ARCS Program - Dover Town Dump/Landfill #2

Date: 1-19-95

Time: 3:30 pm

Call To/From: Ronald Pierce

Representing: NYSDEC - New Paltz

Phone No. 914-256-3068

Summary of Conversation: Mr. Pierce was asked about any known contamination of fish in the Swamp or Tenmile Rivers. Also Mr Pierce was asked about pounds of production of fish from both rivers.

(1) Mr. Pierce informed me that a study conducted by the State of New York published in September 1987 had not found any toxins in fish that would cause concern in either the Swamp or Tenmile Rivers (Toxic Substances in Fish and Wildlife Analyses Since 5

(2) Mr. Pierce informed me that it would be impossible for him to give me a number representing pounds of production per year, because any fish taken from both rivers are for private consumption and no commerical fishing is occuring on either river.

Copies To: File - Dover Town Dump

By: D. Bolner

Wehran EMCON Northeast

TELEPHONE CONVERSATION MEMORANDUM

Client Ebasco

Proj. No. 04829.01

Project ARCS Program 2 Dover Town Dump/Landfill #2

Date 1-25-95

Time 10:30 am.

Call/To/From Ronald Pierce

Representing NYSDEC New Paltz

Phone No. 914-256-3068

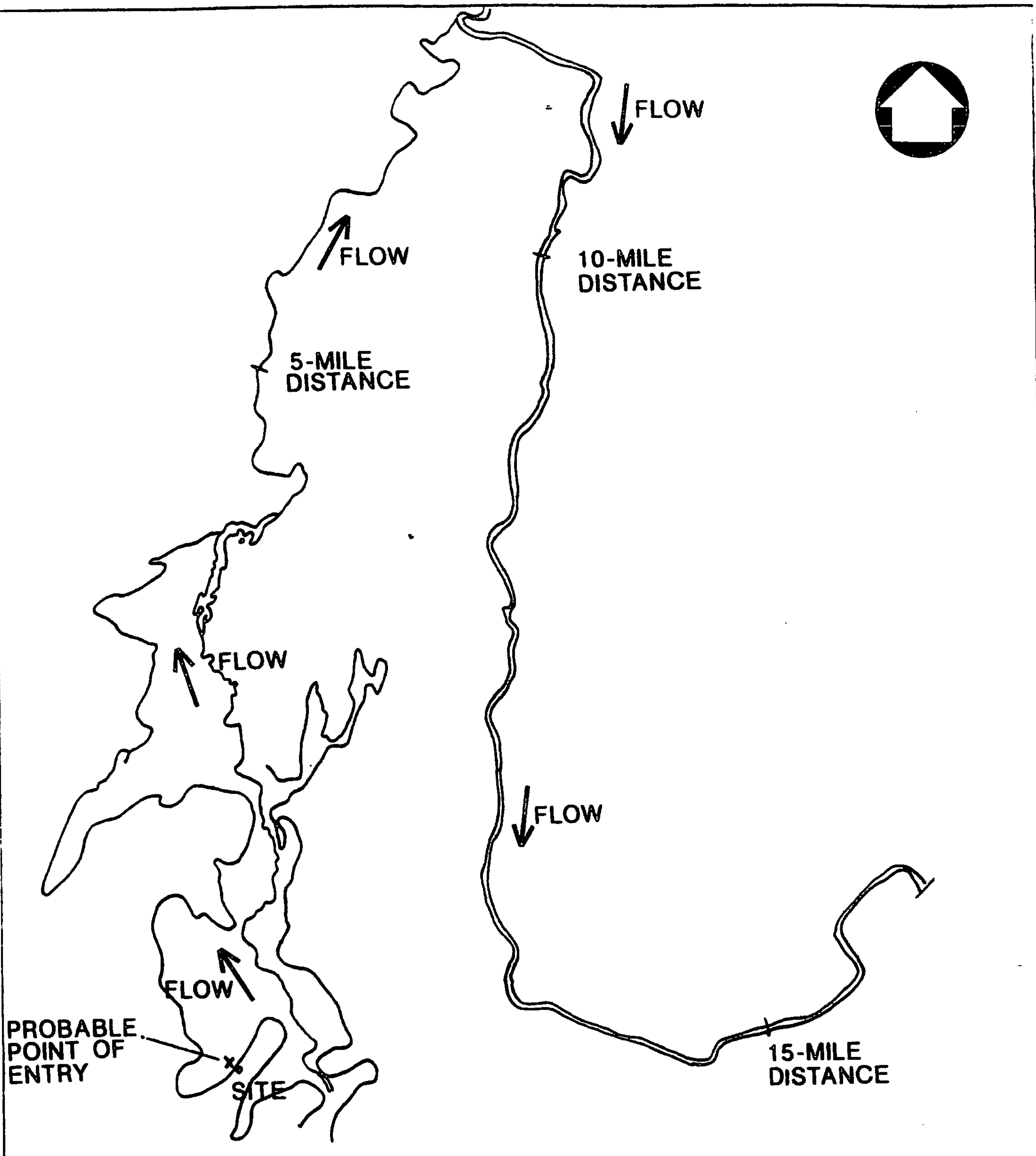
Summary of Conversation Asked Mr. Pierce if the fish he had quoted me in his letter dated December 20, 1994, for Swamp River were the same for Tenmile. Mr. Pierce stated that since the Swamp River is a major tributary of the Tenmile River that fish found in the Swamp River would also be found in the Tenmile River

Copies To File - Dover Town Dump

By D. Bolner

REFERENCE 24

REFERENCE # 24
PAGE 1 OF 1



15 – MILE SURFACE WATER PATHWAY SKETCH

EBASCO ENVIRONMENTAL

NOT TO SCALE

DOVER LANDFILL No. 2
TOWN OF DOVER, NEW YORK

REFERENCE 25

REFERENCE # 25
PAGE 1 OF 4

SOIL SURVEY

Dutchess County
New York

Series 1939, No. 23

Issued December 1955

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with the
CORNELL UNIVERSITY AGRICULTURAL EXPERIMENT STATION

soil. They are sufficiently well-drained for use as cropland and are comparable in drainage to the Pittstown soils, which were derived from acid shale and slate.

The Boynton soils are poorly drained, have gray or dark grayish-brown surface soil, and are mottled within 8 or 10 inches of the surface. They are comparable in drainage to the Stissing soils of the acid shale and slate group.

The very poorly drained black-surfaced Mansfield soil has a gray-mottled subsoil. As indicated in table 4, the Mansfield soil developed both from calcareous sandstone and slate and from acid shale and slate.

SOILS FROM LIMESTONE AND SLATE

The very deep well-drained Stockbridge soils occur in scattered areas throughout the eastern half of the county in association with soils of the acid shale and slate group and of the limestone group. They are comparable to Bernardston soils, acid shale and slate group, and like them, occupy broad hills with uniform slopes. The limestone is sufficient to make them neutral or calcareous in the lower subsoil, as are soils of the Troy series. Unlike the Troy soils, their source of lime is mainly limestone, not calcareous sandstone.

SOILS FROM LIMESTONE

The soils from limestone have developed from glacial till in which the principal rock material is limestone. These soils generally have a calcareous subsoil, though the plowed layer may be slightly to moderately acid. They are darker in color and generally "stronger" than the soils derived from till that contains less lime.

The very deep well-drained Pittsfield soils are not extensive but among the most productive in the county. In association with them, where the limestone in the till is mainly crystalline (approaching a marble), the sandy well-drained Dover soils have developed. Dover soils vary from a few inches to 6 feet deep over bedrock. Areas less than 2 feet thick over bedrock are characterized by many outcrops and are separated from the deeper Dover soils as a ledgy type. The well-drained Wassaic soils—heavier textured than the Dover—have developed where the limestone in the till is not crystalline. Like the Dover, the Wassaic soils vary from a few inches to 5 or 6 feet in thickness, and a ledgy Wassaic type is separated from the deeper Wassaic soils.

The Amenia soil occupies flat or gently sloping moderately well-drained to imperfectly drained areas. It has a brown surface soil and mottling below 15 or 18 inches. The poorly drained Kendaia soil has a dark-gray surface soil and mottling below 8 or 10 inches. The very poorly drained Lyons soil has a black surface soil and a gray-mottled subsoil.

SOILS DEVELOPED FROM GLACIAL OUTWASH

The soils developed from glacial outwash occur mainly as broad nearly level plains or hilly and hummocky kames in the valleys. They were derived from layered sands and gravel deposited by running water during the melting of the glacier. They are not so extensive as the soils derived from glacial till, but their favorable relief

and general productivity place them among the best soils in the county.

SOILS FROM GRANITE AND GNEISS

The glacial outwash soils derived chiefly from granite and gneiss are the Merrimac. These sandy soils are deep, strongly acid, and well-drained or excessively drained. They have developed from glacial outwash from granite and gneiss materials. They are loose and open throughout and are underlain by deep beds of layered sands and gravel. They are low in content of plant nutrients and are inclined to be droughty. The hilly and steep phases were formerly recognized as a separate series, the Hinckley.

SOILS FROM ACID SHALE AND SLATE

Glacial outwash soils derived chiefly from acid shale and slate occur mainly in the western half of the county in the valleys of Fishkill and Wappinger Creek and on the high terraces along the Hudson River. They are deep and moderately to strongly acid throughout. They are underlain at depths between 2 and 4 feet by layered beds consisting of rounded pieces of slate, shale gravel, and sand.

The well-drained Hoosic soils range from gravelly sandy loam to loam in texture. They are not naturally high in plant nutrients but respond well to fertilization and are highly productive when properly managed. Their good internal drainage is indicated by the uniform brown to yellow colors of the profile. The hilly and steep phases were formerly recognized as a separate series, the Otisville.

In small depressions and flats associated with the Hoosic soils are areas with very compact substrata below 24 or 30 inches. These areas were mapped as Braceville, Hero, and Phelps silt loams, undifferentiated. The moderately well to imperfectly drained bodies of Braceville soil occur where internal drainage is retarded only enough to cause mottling with rusty brown and gray in the subsoil below depths of 15 to 18 inches. The Hero and Phelps soils, though mapped in the undifferentiated unit, did not develop from acid shale and slate, so are mentioned with their appropriate groups.

The Red Hook soil occurs where a high water table is maintained for long periods; its surface soil is dark gray or dark grayish brown, and its subsoil is mottled to within 8 or 10 inches of the surface. The Atherton soil is in the more poorly drained depressions; its surface soil is black, and its subsoil is gray or mottled gray and brown throughout.

SOILS FROM CALCAREOUS SANDSTONE, LIMESTONE, AND SLATE

The glacial outwash soils derived chiefly from sandstone, limestone, and slate are the Copake and Hero. The Copake soils are comparable to the Hoosic soils in being deep, well-drained, and underlain by stratified gravel and sand. They differ, however, in having free lime at depths of 3 to 8 feet and in having a slightly less acid surface soil. The hilly and steep phases of Copake soil were formerly recognized as belonging to the Schodack series. The Hero soils, mapped in an undifferentiated group with Braceville and Phelps soils, have developed from materials similar to those of the Copake soils, but they occupy depressions or flats and are moderately well to imperfectly

REFERENCE 25
PAGE 2 OF 4

The soil is best suited to pasture or to a 5- or 6-year rotation consisting of at least 4 years of hay and not more than 1 year of intertilled crops. Alfalfa is well suited and should be included in seeding mixtures for long-term hay. Birdsfoot trefoil may prove equally well suited to hay mixtures and better suited to pastures. The lime requirement of the soil is low, but crops respond to phosphorus.

Dover fine sandy loam, ledgy rolling phase (5–15% slopes) (Do).—Many outcrops of crystalline limestone characterize this very shallow soil that developed from shallow deposits of glacial till and materials weathered from the underlying crystalline limestone bedrock. The principal rock constituent of the glacial till is crystalline limestone, which weathers easily into a fine sandy loam. Other rock materials present in smaller quantity are schist, quartzite, slate, and gneiss.

The soil occurs on low hills and knolls that seldom rise more than 100 feet above the floor of the Harlem Valley. The relief is uneven. White sand is common on the surface where a rock outcrop is disintegrating. Where the surface of an outcrop joins the soil, several inches of disintegrating sandy material lie upon the soil. Both surface and internal drainage are good.

Beneath a pasture sod, the surface soil is a dark coffee-brown mellow or fluffy finely granular fine sandy loam, neutral or alkaline, well penetrated with grass roots, and about 9 inches thick. From 9 down to 17 inches, the subsoil is strongly alkaline, mellow, brown fine sandy loam. Below 17 inches to a depth of 21 inches the subsoil is light yellowish-brown fine sandy loam that is friable, mellow, and slightly calcareous. Below 21 inches and extending to 28 inches is strongly calcareous very light-gray fine sand, which rests on the crystalline limestone bedrock. Roots penetrate all layers but are most abundant in the surface soil.

The soil varies chiefly in depth. Outcrops of the underlying limestone are numerous, but in pockets between them the average depth of soil is about 24 inches. Nevertheless, the layers of bedrock are tilted on edge, and in pockets between outcrops the soil may be as much as 4 feet deep. The soil is moderately eroded in most areas. A few small included areas have been severely eroded.

Use and management.—The cultivated areas of this soil are shallow but contain fewer outcrops than normal for the entire soil. They are used principally for hay grown in rotation with corn and oats. From 10 to 12 tons of manure and 300 to 400 pounds of 20-percent superphosphate an acre are usually applied for corn, and 150 to 200 pounds of superphosphate for oats. Timothy, red clover, and alfalfa, the principal hay crops, are maintained from 3 to 5 years and then pastured 1 or 2 years before plowing. Top dressings of manure are sometimes applied to hay crops to maintain the stands longer. The soil is inclined to be droughty. Yields vary with the quantity of rainfall during the growing season. Cultivable areas like these are exceptions; the soil normally cannot be cultivated and is pastured (pl. 3, *A*).

Permanent pasture is generally good during early spring and very poor after July 15. Canada and Kentucky bluegrasses, redtop, and wild white clover are usually abundant. Chicory, thistle, wild

aster, wild carrot, and other weeds grow in the poorest pastures, and some brushy growth of hardhack, redcedar, and hawthorn is encroaching. Pastures need phosphorus but no lime.

The forests are young, and the stands are irregular. Redcedar, usually the dominant tree, occurs with some gray and white birches, locust, hard maple, and wild cherry. Redcedar and brush soon invade idle areas.

Dover fine sandy loam, ledgy hilly phase (15–30% slopes) (Ds).—More strongly sloping and hilly areas associated with the ledgy rolling phase are occupied by this soil. The relief is irregular. Outcrops of disintegrating white limestone are conspicuous and somewhat more numerous than on less steeply sloping phases of Dover fine sandy loam. About 25 percent of this soil has been severely eroded; the rest, moderately eroded. The light fluffy surface soil, the shallowness of the profile, and the irregularity of relief makes danger of erosion great. Cultivation is extremely difficult and usually results in serious loss of soil.

The profile in moderately eroded areas is similar to that of the ledgy rolling phase. The surface soil in severely eroded areas is composed principally of subsoil material; it is light brown and about 6 inches thick. The subsoil, a light yellowish-brown fine sandy loam, extends to a depth of 12 inches. Below 12 inches lies a 4- or 5-inch layer of disintegrated bedrock, a light-gray fine sand that rests on the solid white limestone.

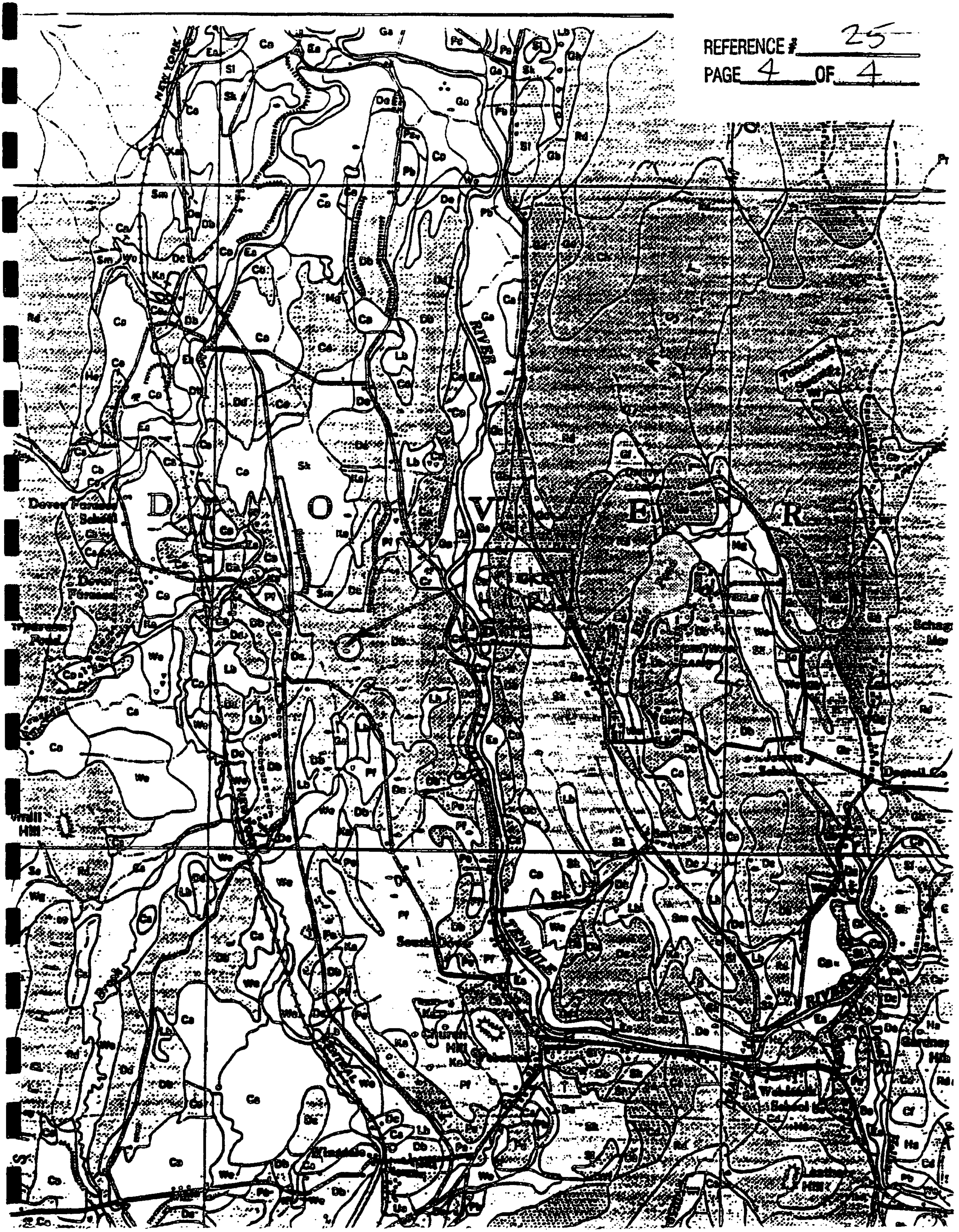
Use and management.—This soil is mostly in pasture and forest. Pasture is good in the spring but poor in summer. The bluegrass, redtop and wild white clover sods are usually heavy. About a fourth of the pasture is on eroded areas, and erosion is still active in places. Light applications of manure or phosphate would probably improve the pasture so it could hold the soil, but most pastures are not fertilized. The soil is droughty, and in dry seasons the vegetation is severely damaged. The forest is young and consists of the same species as are on the ledgy rolling phase.

Dover fine sandy loam, ledgy steep phase (30–45% slopes) (Dp).—This soil has steep irregular slopes and many outcrops of the underlying rock. Areas vary from 2 to 70 acres in size.

The profile in the moderately eroded areas (65 percent of the phase) is generally similar to that of the ledgy rolling phase but thinner over bedrock in most places. The present surface soil in pastures is about 5 inches deep and grayish brown. Beneath the surface soil is about 8 inches of light yellowish-brown friable fine sandy loam subsoil, which rests at a depth of about 8 inches on very light-gray fine sand from disintegrated limestone. The solid bedrock normally occurs at depths of 10 to 15 inches.

Use and management.—Under forest this soil appears to be stabilized; slips develop only where forest is pastured. This soil is best used for forest in most places. Redcedar comes in rapidly and is the dominant species. Gray and white birches, white pine, black locust, and maple are also present. The forest is all young, which indicates that the soil was probably cleared at one time. Erosion is active in most pastures. The sod is not heavy enough to hold the soil; surface wash occurs and the soil slips on many of the steep slopes.

REFERENCE # 25
PAGE 3 OF 4


NEW YORK
D O V E R
RIVER
South Dover
TENMILE

REFERENCE 26

REFERENCE 27

REFERENCE # 27
PAGE 1 OF 1

Wehran EMCON Northeast

TELEPHONE CONVERSATION MEMORANDUM

Client: ARCS - Ebasco
Project: Dover Landfill No. 2
Proj. No.: 04828.01
Date: 4-17-95
Time: 11:35

Call To/From: Joe Buschynski
Representing: Town of Dover Consultant Bibbo & Assocates
Phone No.: (914) 277-5805

Summary of Conversation: Final capping of landfill expected to be completed by the end of 1995.

Copies To: File

By: Julie Gilbert

REFERENCE 28

REFERENCE # 28
PAGE 1 OF 1

Wehran EMCON Northeast

TELEPHONE CONVERSATION MEMORANDUM

Client Ebasco

Project ARCs Dover Landfill No 2

Proj. No. 04828.01

Date 4-25-95

Time 10:30 a

Call To/From Jim Napley

Representing Dutchess Co. Dept of Health

Phone No. (914) 431-1644

Summary of Conversation groundwater Resources w/in 4 mile TDL

Irrigation of commercial crops
watering commercial livestock
Ingredient in commercial food
Supply for commercial aquaculture
Supply for recreational use

Don't Know information about groundwater resources
Limited agriculture in Dutchess ~~County as a~~ whole
*Try cooperative extension 677-8223

Dave Icton

Agriculture has decreased alot in that area. He doesn't know if there are any farms left around Wingdale

Copies To File.

By Julia Gilbert

KILOMETERS
MILES

TOPOGRAPHY TAKEN FROM:

1958 DOVER PLAINS, N.Y. - CONN.
Photorevised 1984
1958 PAWLING, N.Y. - CONN.
Photorevised 1971
Photoinspected 1976
1960 POUGHQUAG, N.Y.
Photorevised 1981
1960 VERBANK, N.Y.
Photoinspected 1976

TOPOGRAPHIC QUADRANGLE 7.5 MIN. SERIES

DOVER LANDFILL NO. 2 WETLAND ACREAGE BREAKDOWN

RADIUS	ACREAGE
0–.25 miles	83.62 acres
.25–.50 miles	158.11 acres
.50–1.0 miles	264.47 acres
1.0–2.0 miles	742.14 acres
2.0–3.0 miles	725.80 acres
3.0–4.0 miles	746.18 acres
TOTAL WETLAND ACREAGE	2720.32 acres

EBASCO ENVIRONMENTAL

FOUR MILE VICINITY MAP

DOVER LANDFILL No. 2
TOWN OF DOVER, N.Y.

REFERENCE # 26
PAGE 1 OF 1